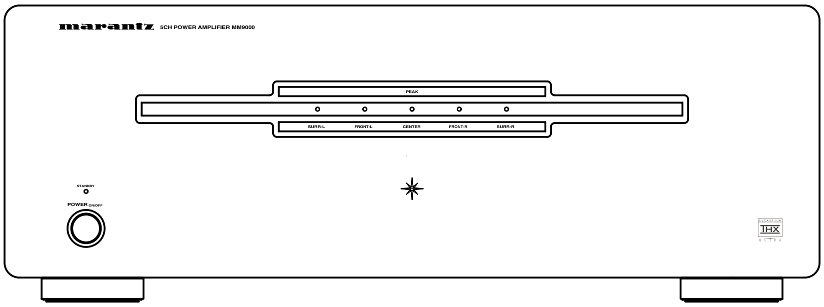
Service Manual

MM9000 /K1G, /N1G, /S1G /N1B, /U1B

Power Amplifier



MM9000

TABLE OF CONTENTS

Please use this service manual with referring to the user guide (D.F.U.) without fail.

marantz®

MM9000

310J855010 MIT
3120 785 22220
First Issue 1999.11

Printed in Japan

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NO. 33, JALAN SULTAN ISMAIL,
50250 KUALA LUMPUR, MALAYSIA
PHONE : +60 3 - 2457677
FAX : +60 3 - 2458180

JAPAN *Technical*
MARANTZ JAPAN, INC.
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SAGAMIHARA - SHI, KANAGAWA
JAPAN 228-8505
PHONE : +81 42 748 1013
FAX : +81 42 741 9190

日本マランツ株式会社
本　社　〒228-8505
神奈川県相模原市相模大野7-35-1
営業本部　〒150-0022
東京都渋谷区恵比寿南1-11-9

KOREA
MK ENTERPRISES LTD.
ROOM 604/605, ELECTRO-OFFICETEL, 16-58,
3GA, HANGANG-RO, YONGSAN-KU, SEOUL
KOREA
PHONE : +822 - 3232 - 155
FAX : +822 - 3232 - 154

SHOCK, FIRE HAZARD SERVICE TEST :

CAUTION : After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.
Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.
Ref. UL Standard No. 1492.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

1. TECHNICAL SPECIFICATIONS

Rated power output
- Front L/R (20Hz -20kHz) .... 170W 8-ohm / Channel
- Center (20Hz - 20kHz) .... 170W 8-ohm / Channel
- Surround L/R (20Hz - 20kHz) .... 170W 8-ohm / Channel
- THD (20Hz - 20kHz) 0.03% 8-ohm
- Input sensitivity .... 100mV / 1W Output
- Input impedance .... 20k ohms
- Frequency response (-1dB) .... 5 Hz to 100kHz
- Signal to noise ratio 95dB

- Power requirement .... AC 220V 50/60 Hz (/K version)
  AC 230V 50 Hz (/N version)
  AC 230V 50 Hz (/S version)
  AC 120V 60 Hz (/U version)
- Power consumption (L/R cannel 100W driven) 400W

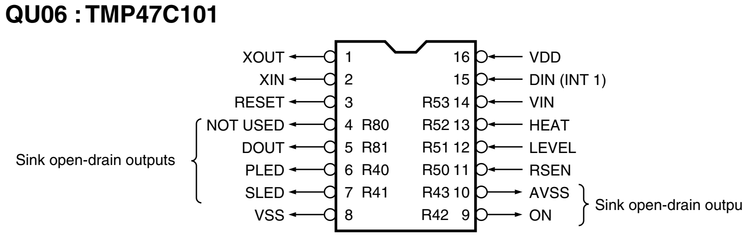
Dimensions (Maximum)
- Width .... 17-5/16 inches (440mm)
- Height .... 6-5/16 inches (160mm)
- Depth .... 17-4/5 inches (452mm)
- Weight .... 44.1 lbs (20kg)

Accessories
- AC power cord 1

Design and specifications are subject to change without notice.

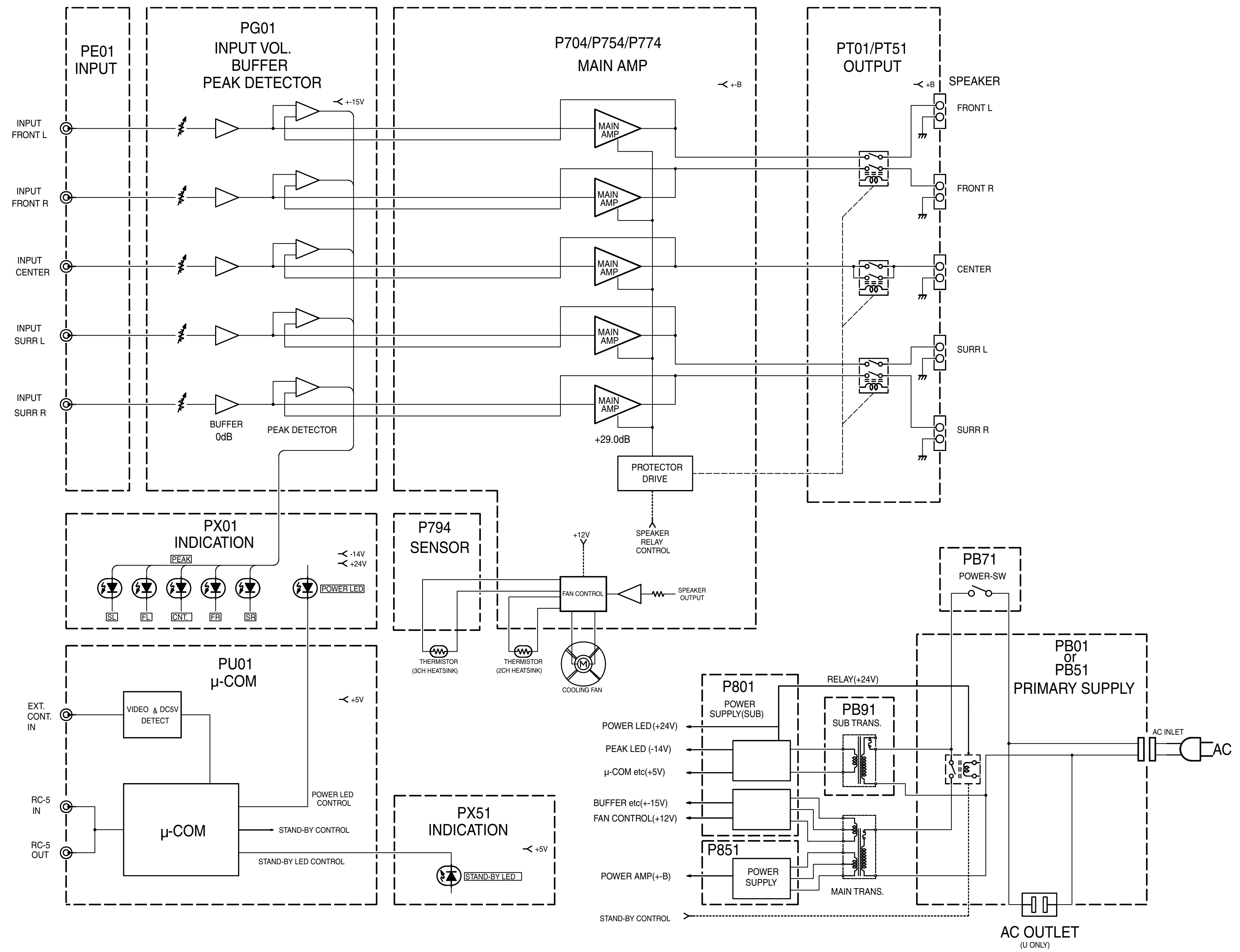
2. IC DATA

QU06 : TMP47C101

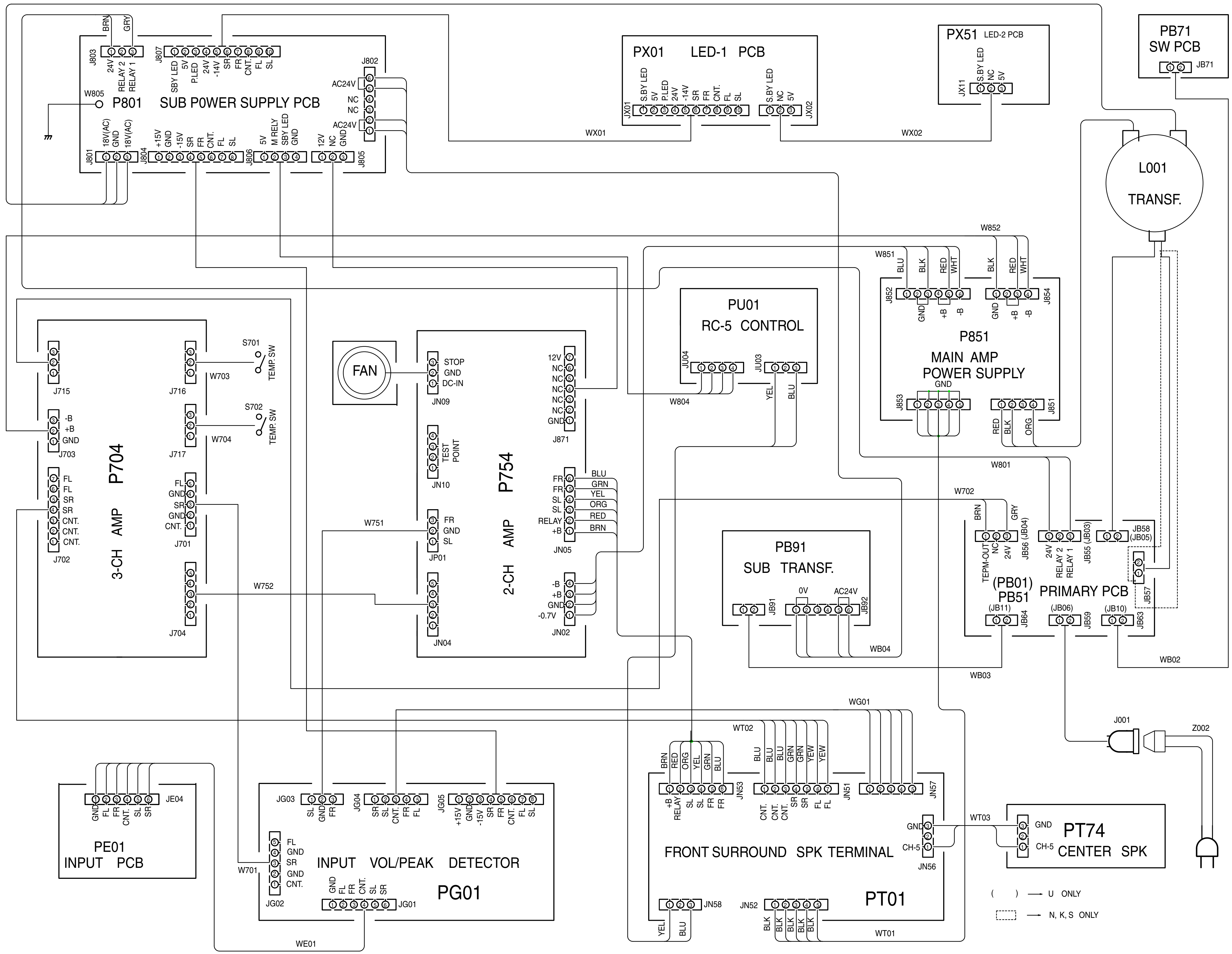


Port	Pins	Name	In/Out	Active	Description
R80	4		Input		Not used
R81	5	DOUT	Output		Data output from RC5.
R82	15	DIN	Input	L	Data input to RC5.
R40	6	PLED	Output	L	Power LED.
R41	7	SLED	Output	L	Stand-by LED.
R42	9	ON	Output	L/H	Power amplifier OFF/ON
R43	10	AVSS	Output	L/H	Power amp supply voltage control. Low/High voltage.
R50	11	RSEN	Input	H/L	Power amp output muting status detection input. OFF/ON.
R51	12	LEVEL	Input	L/H	Power amp output level detection input. High/Low power.
R52	13	HEAT	Input	L/H	Heat sink overheating detection input. Overheat/Normal.
R53	14	VIN	Input	L/H	Video and DC signal detection input. Detected/Not detected.

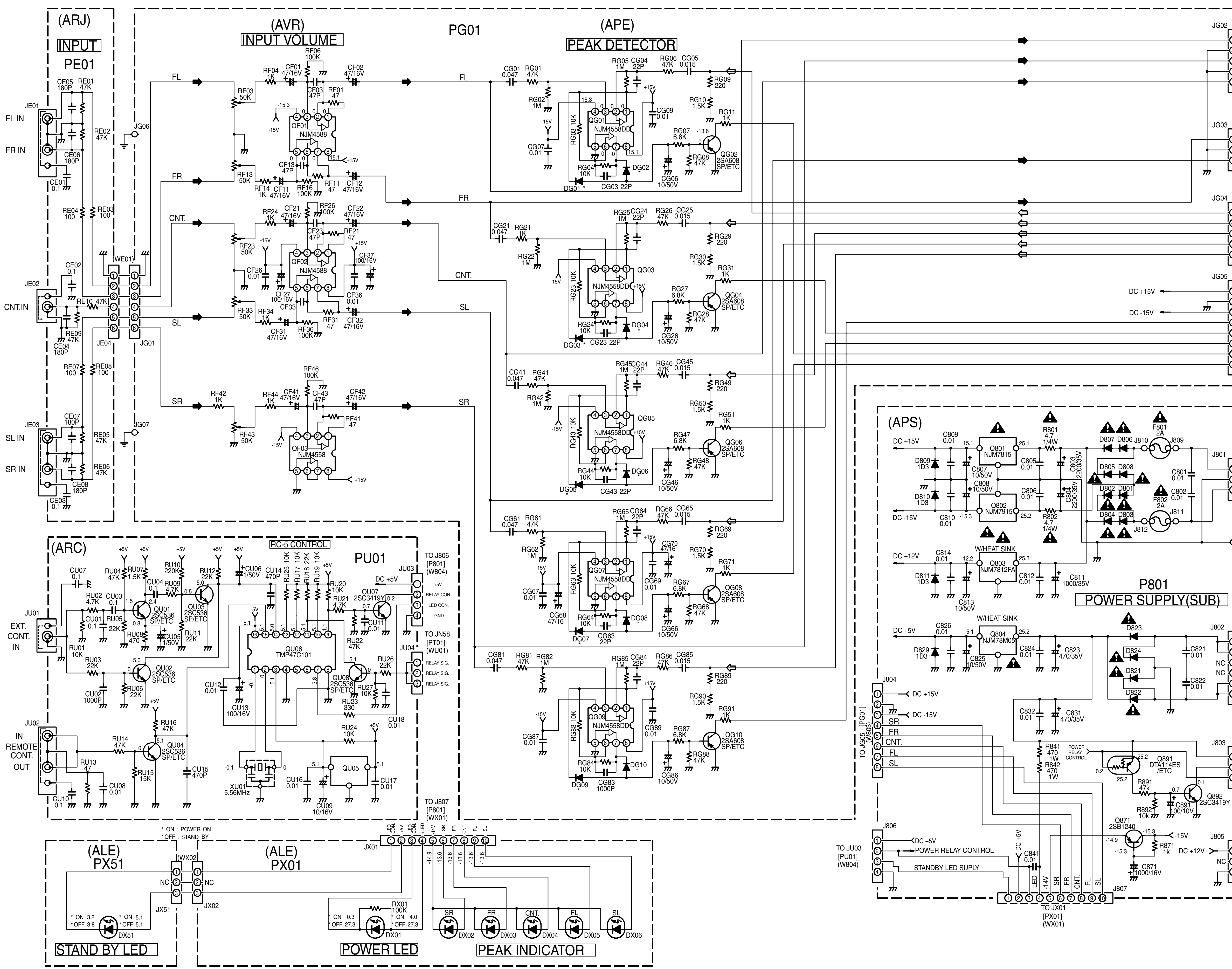
3. BLOCK DIAGRAM

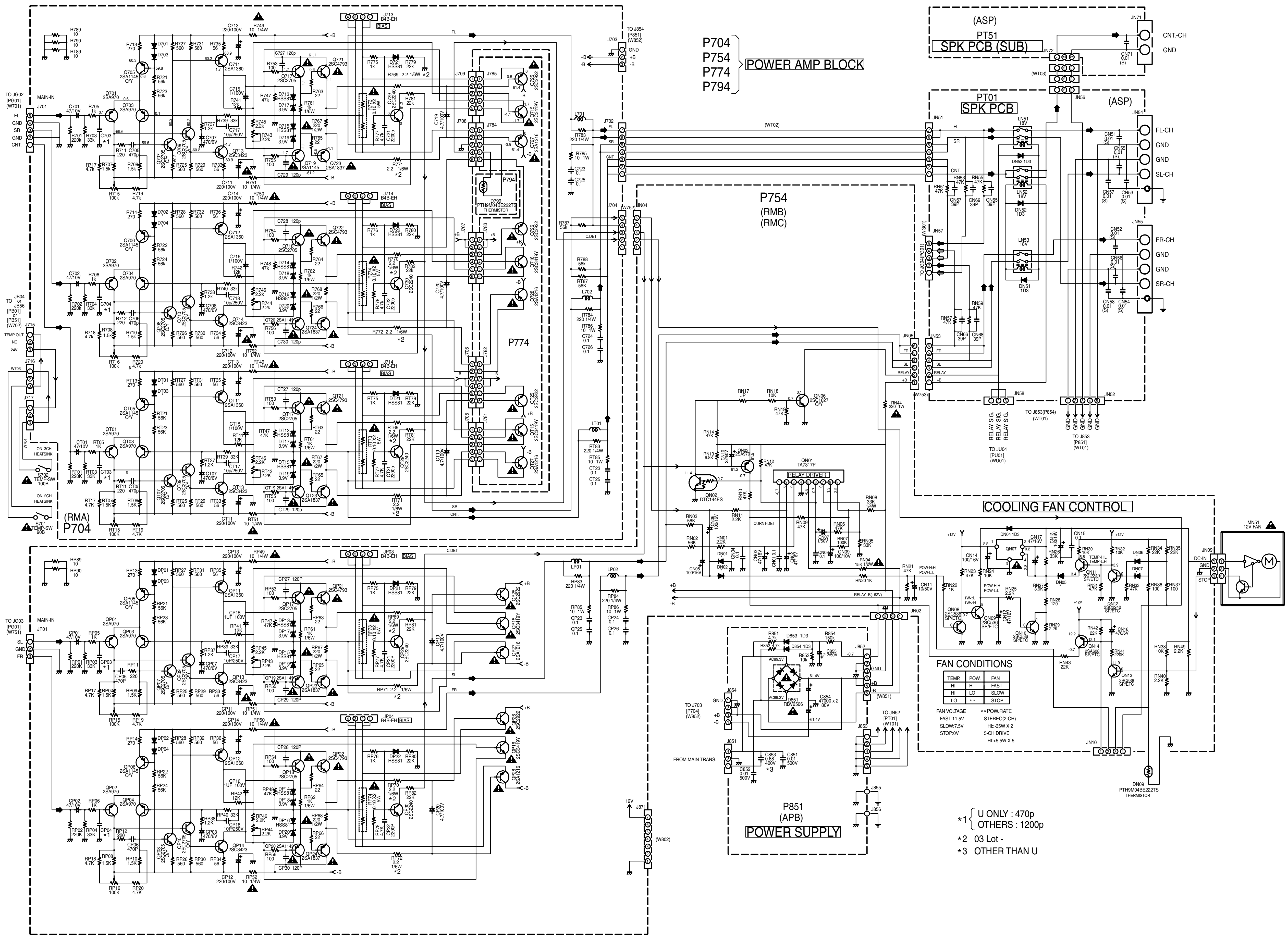


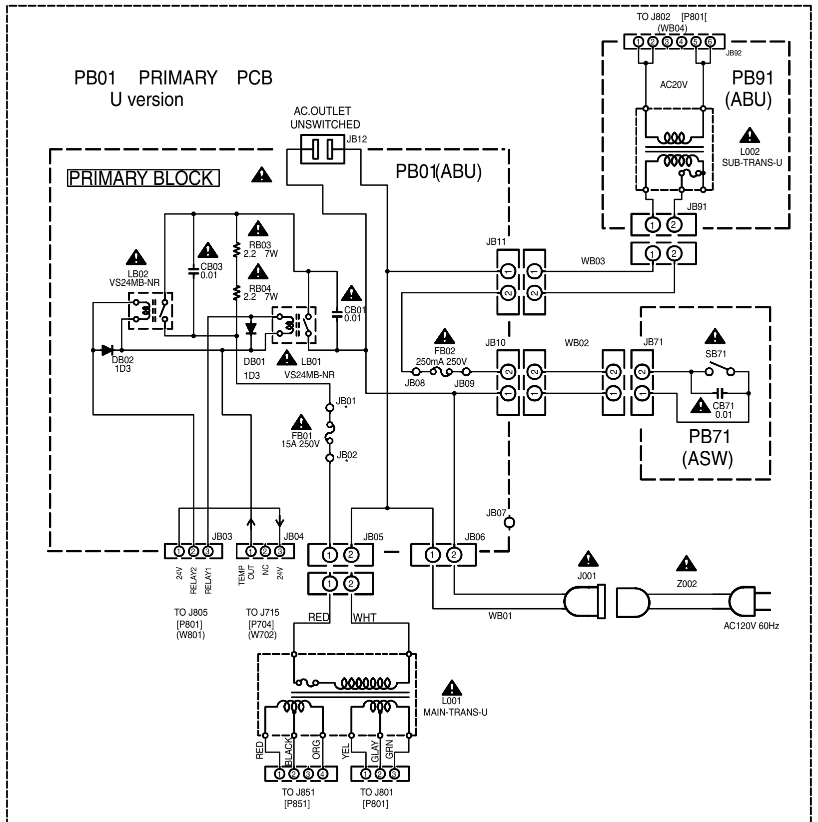
4. WIRING DIAGRAM

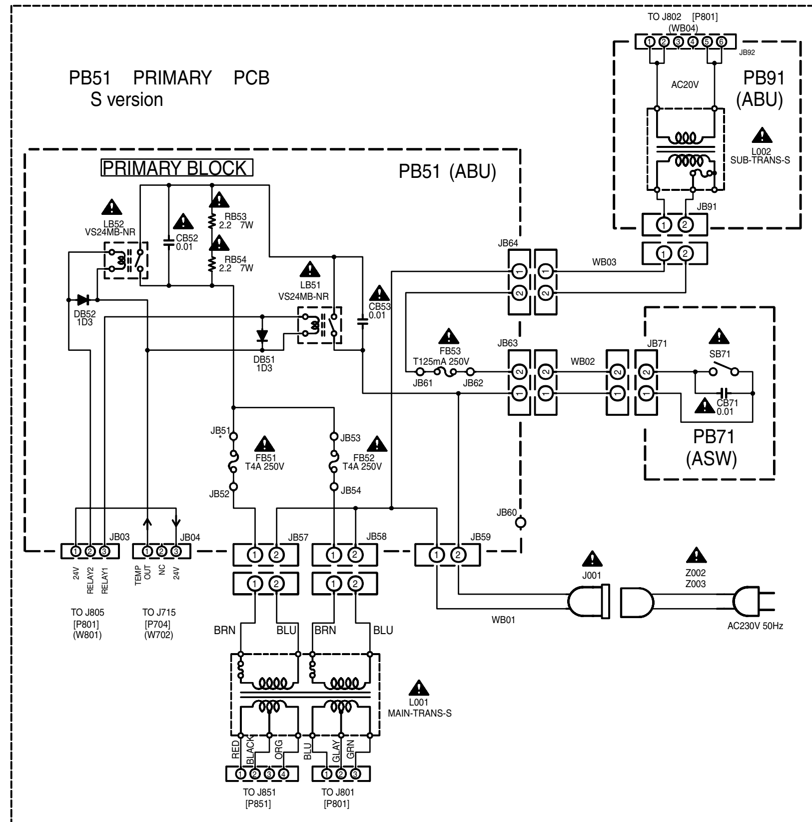


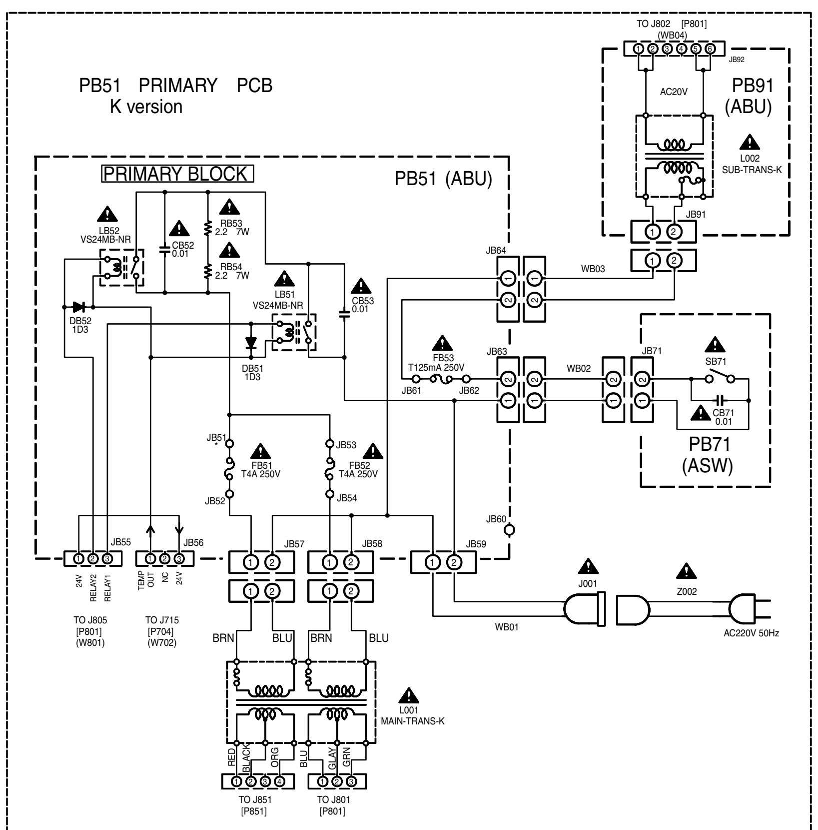
5. SCHEMATIC DIAGRAM

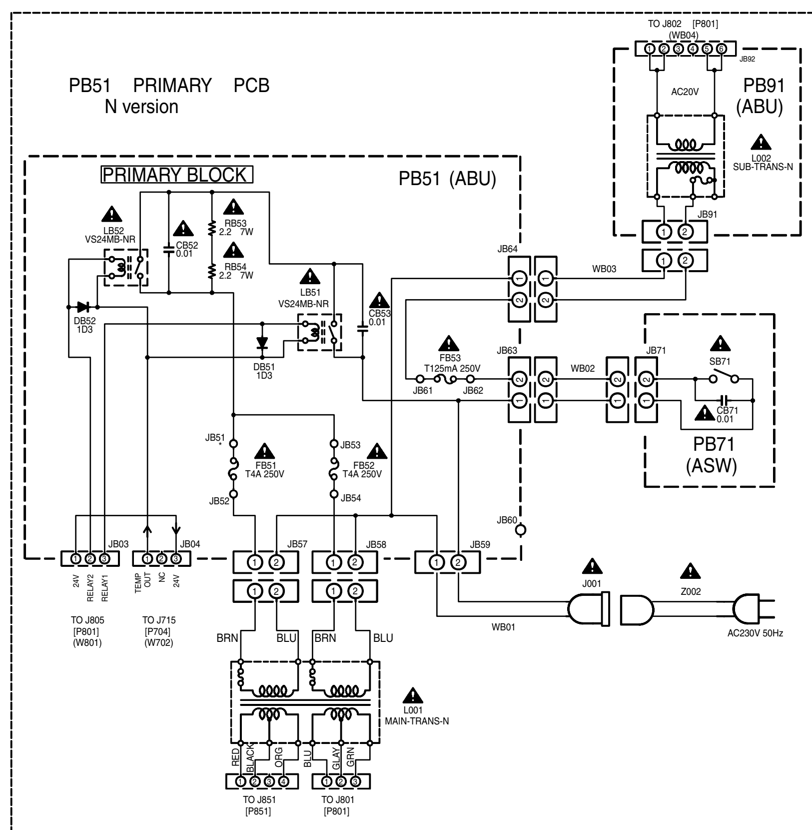



P704
P754
P774
P794
POWER AMP BLOCK
(ASP)
PT51
SPK PCB (SUB)
PT01
SPK PCB
(RMA)
P704
P754
(RMB)
(RMC)
P774
COOLING FAN CONTROL
FAN CONDITIONS
TEMP. POW. FAN
HI HI FAST
HI LO SLOW
LO ** STOP
FAN VOLTAGE
FAST:11.5V
SLOW:7.5V
STOP:0V
**POW.RATE
STEREO(2-CH)
HI:>35W X 2
5-CH DRIVE
HI:>5.5W X 5
P851
(APB)
POWER SUPPLY
RELAY DRIVER
*1 U ONLY : 470p
OTHERS : 1200p
*2 03 Lot -
*3 OTHER THAN U



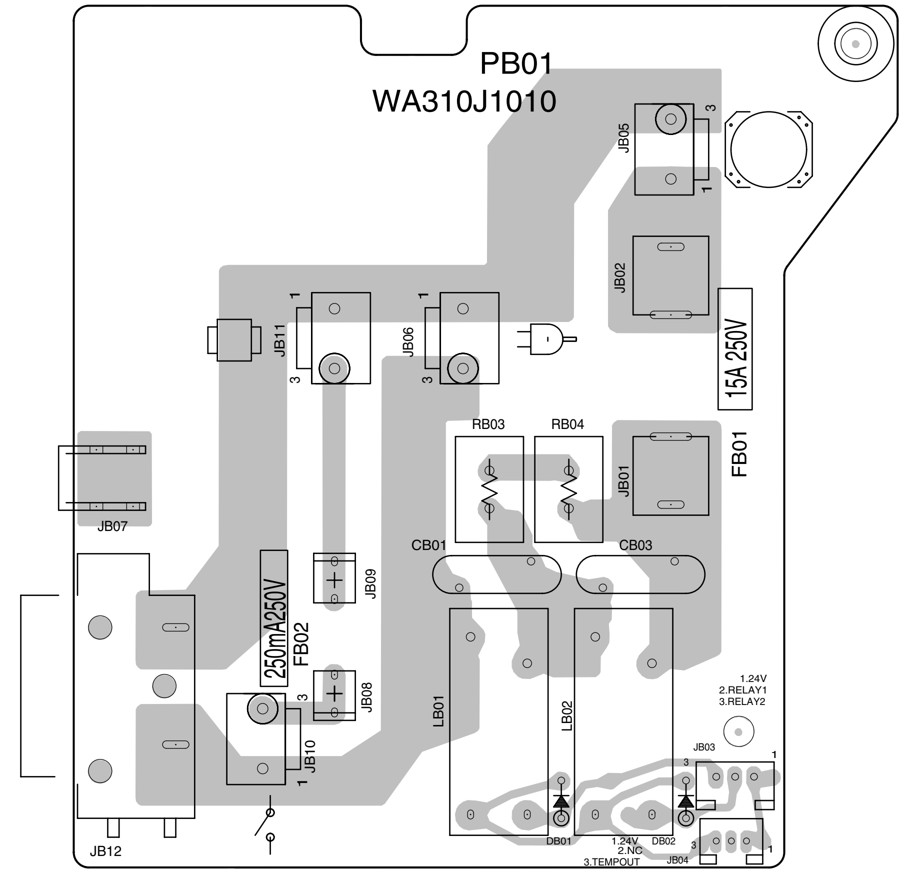




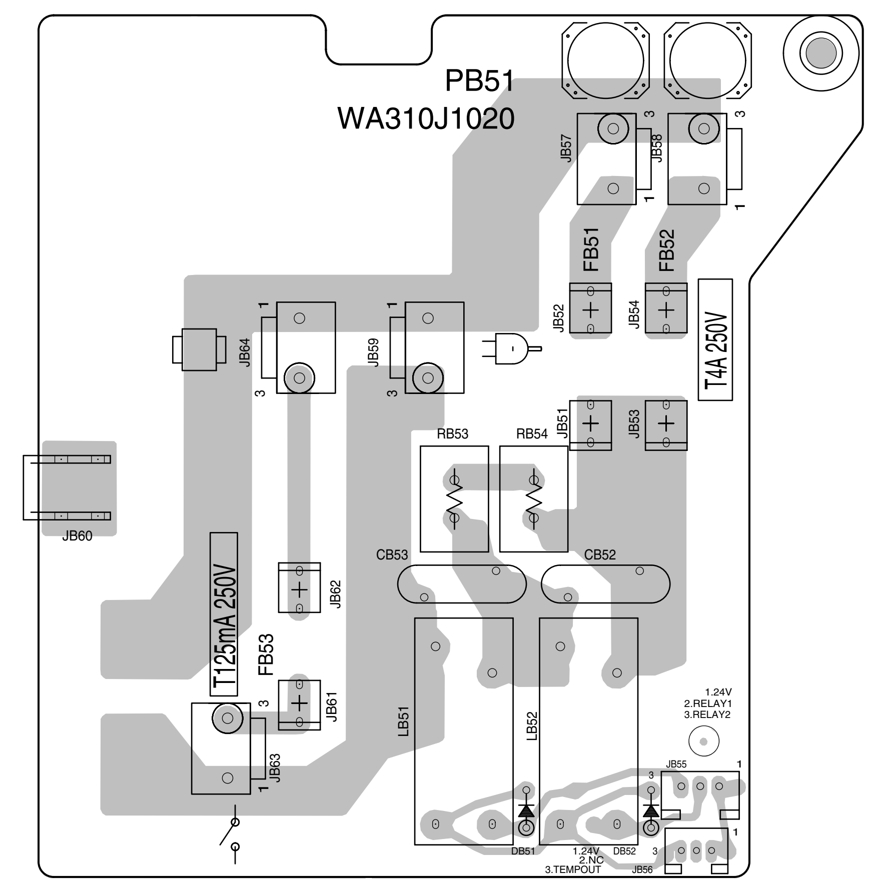


6. PARTS LOCATION (Pattern Side)

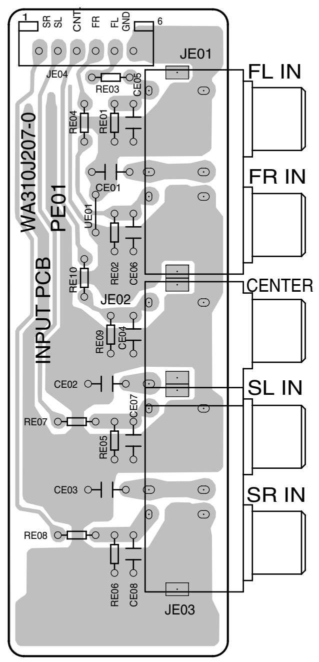
PB01



PB51

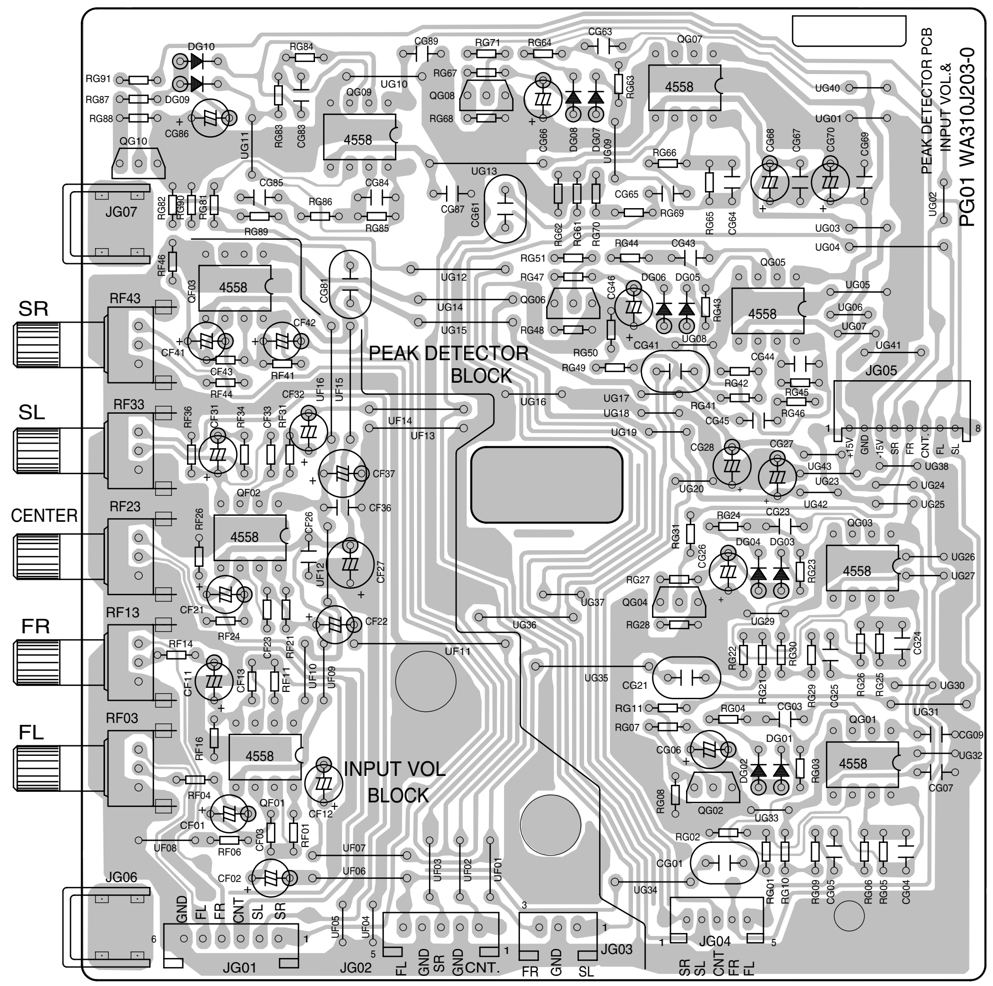


PE01



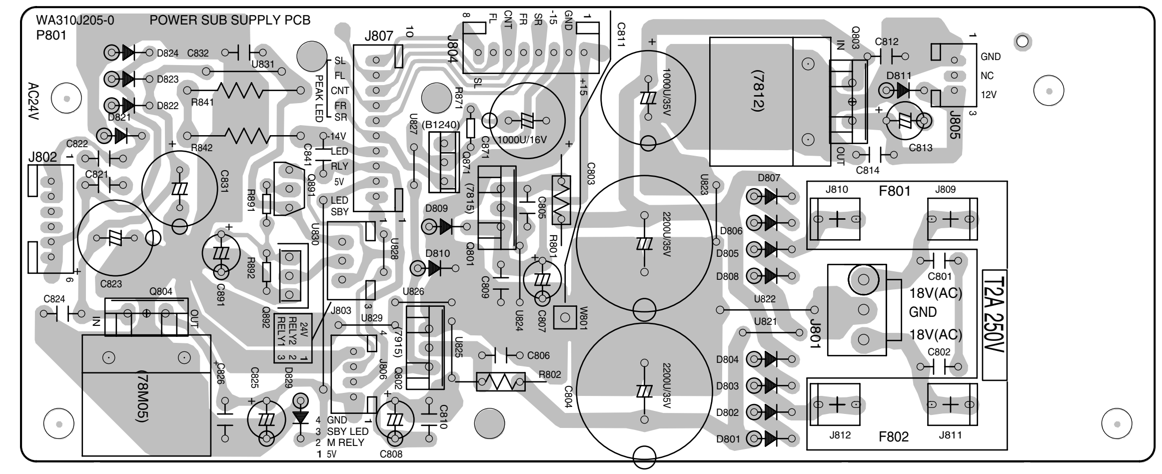
PG01

QG10 QG09 QG08 QG07
QF03 QG06 QG05
QF02 QG04 QG03
QF01 QG02 QG01



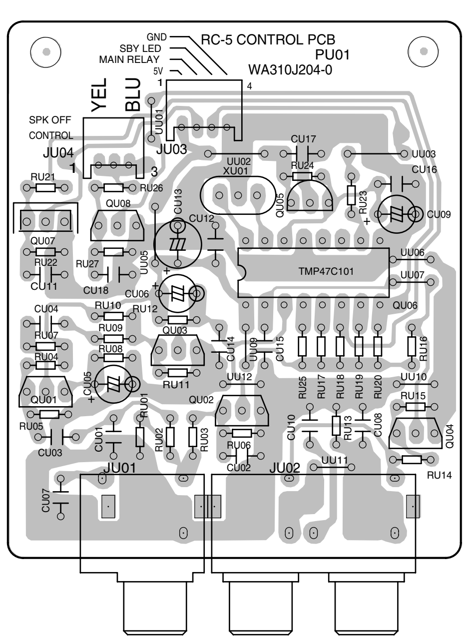
P801

Q891 Q871 Q801 Q803
Q804 Q892 Q802

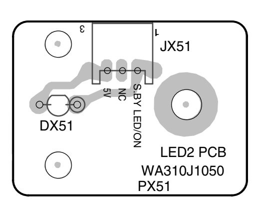


PU01

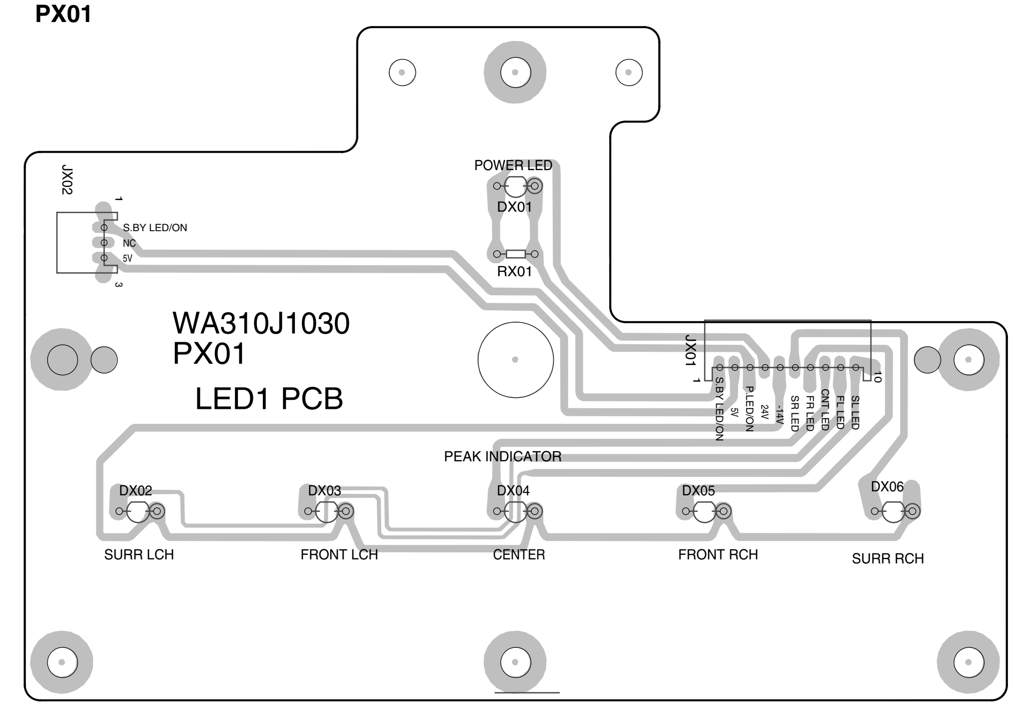
QU07 QU08 QU05
QU03 QU06
QU01 QU02 QU04



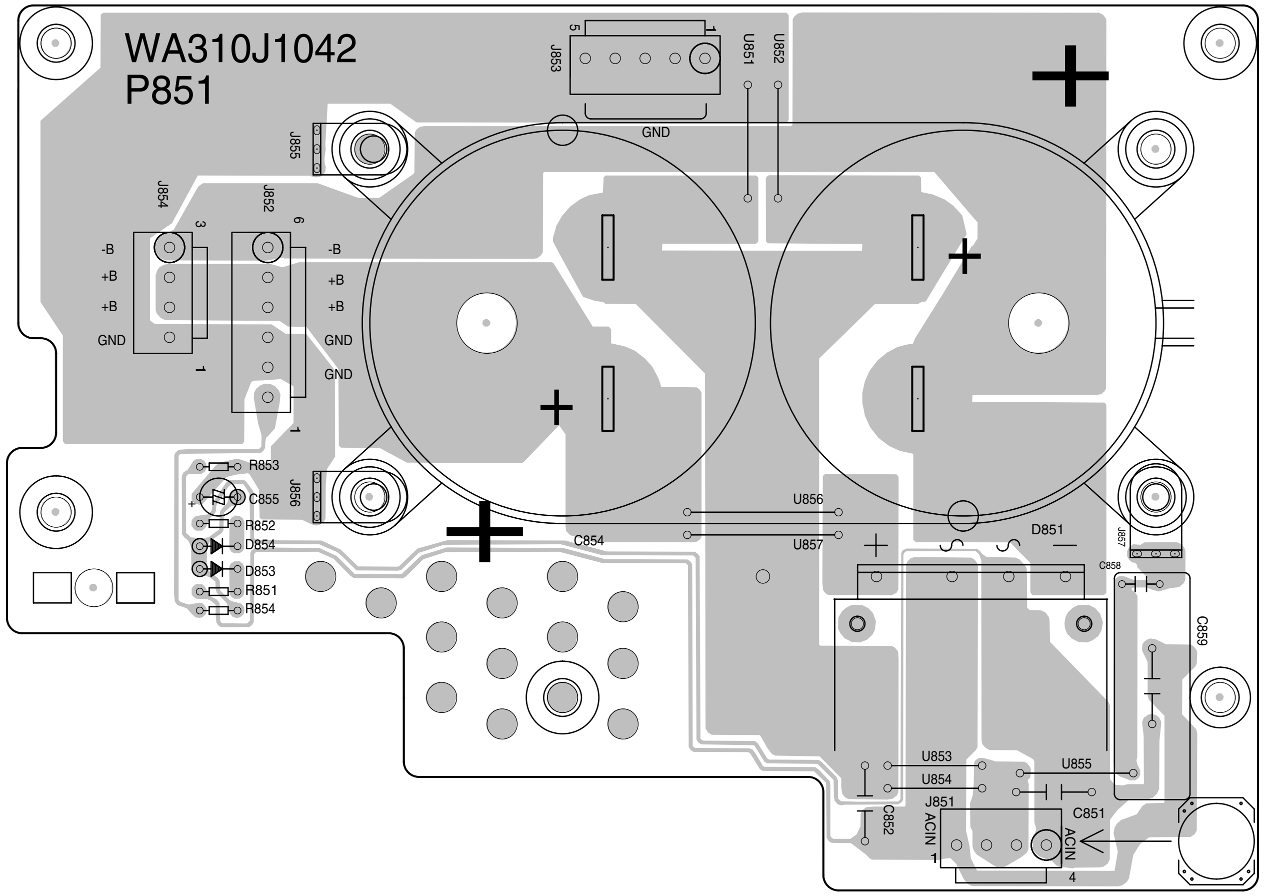
PX51



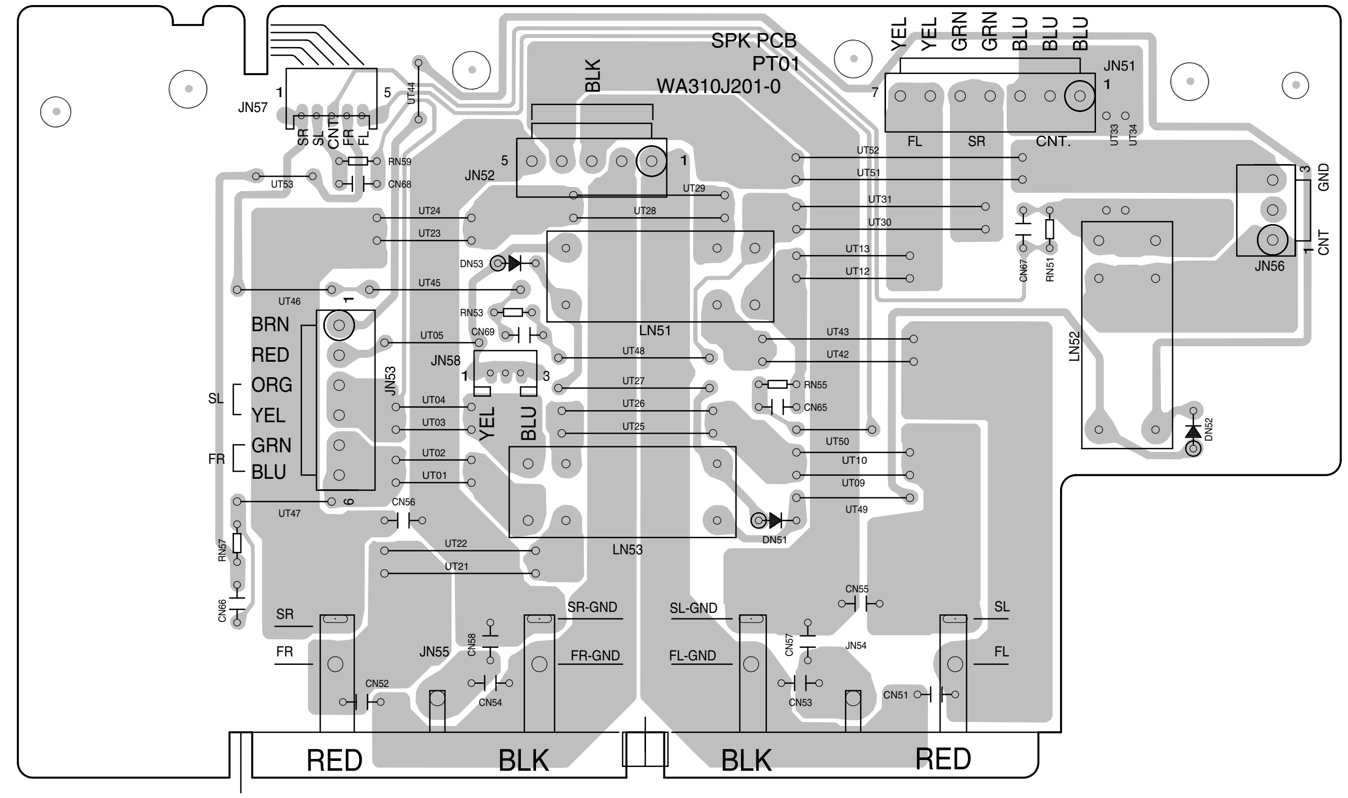
PX01



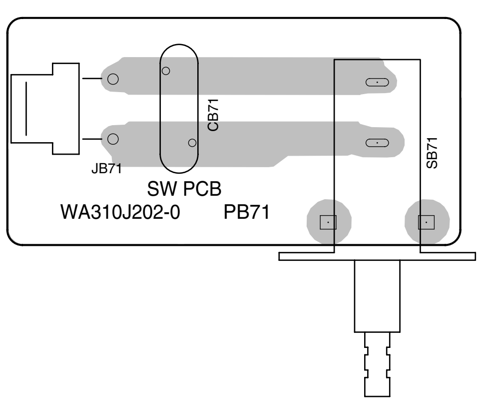
P851



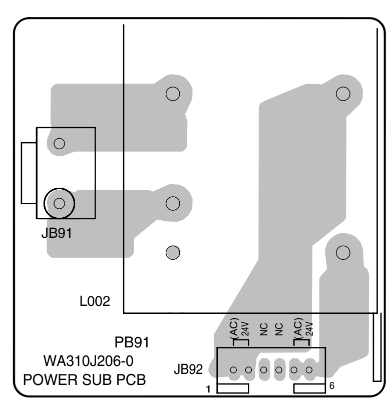
PT01



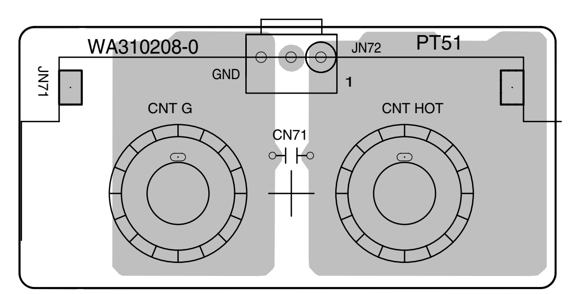
PB71



PB91



PT51



P704

QT03 QT01
QT09 QT13
QT19 QT23

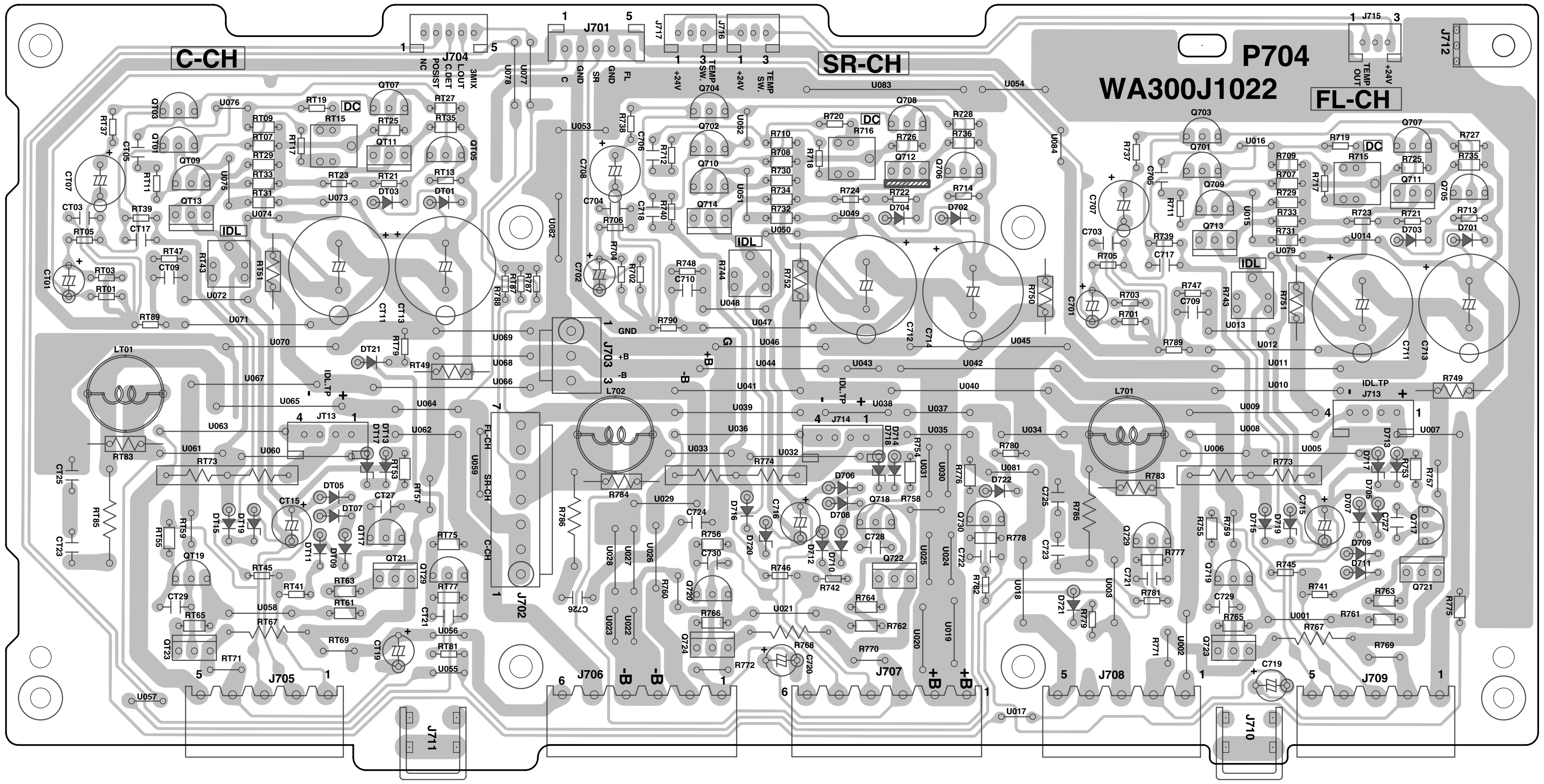
QT07
QT11 QT05
QT17 QT21 QT29

Q704 Q702
Q710 Q714
Q720 Q724

Q708
Q712 Q706
Q718 Q722 Q730

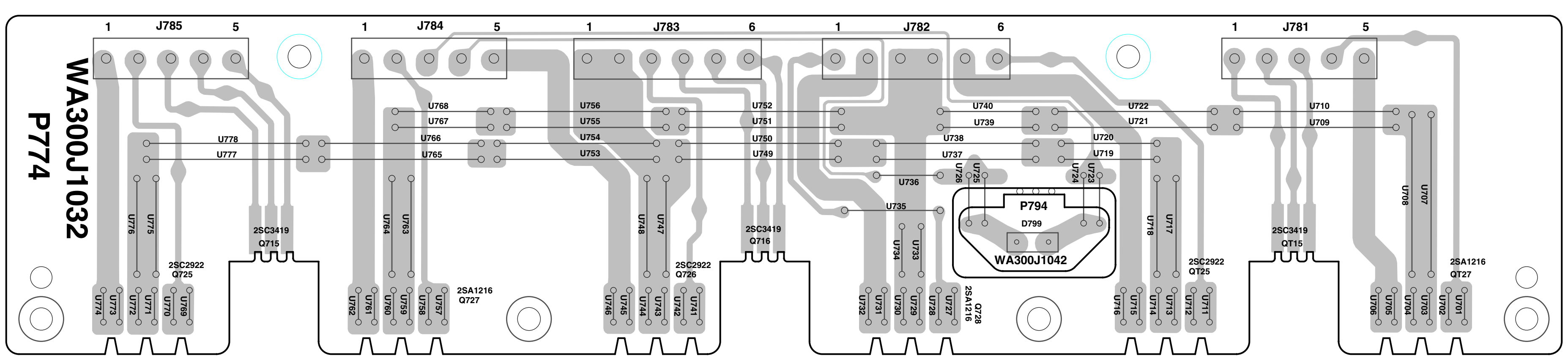
Q703 Q701
Q709 Q713
Q728 Q719

Q707
Q711 Q705
Q717 Q721

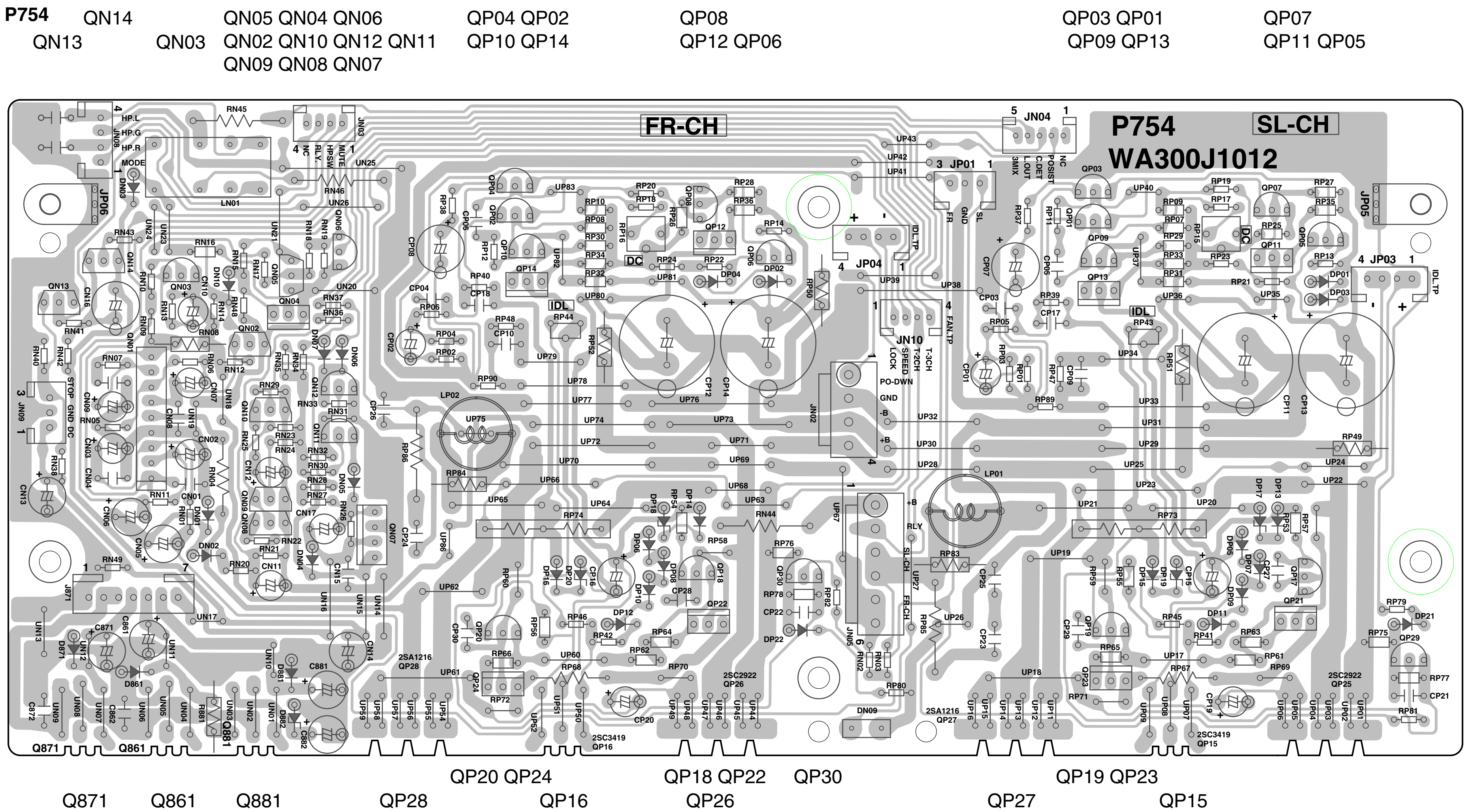


P774

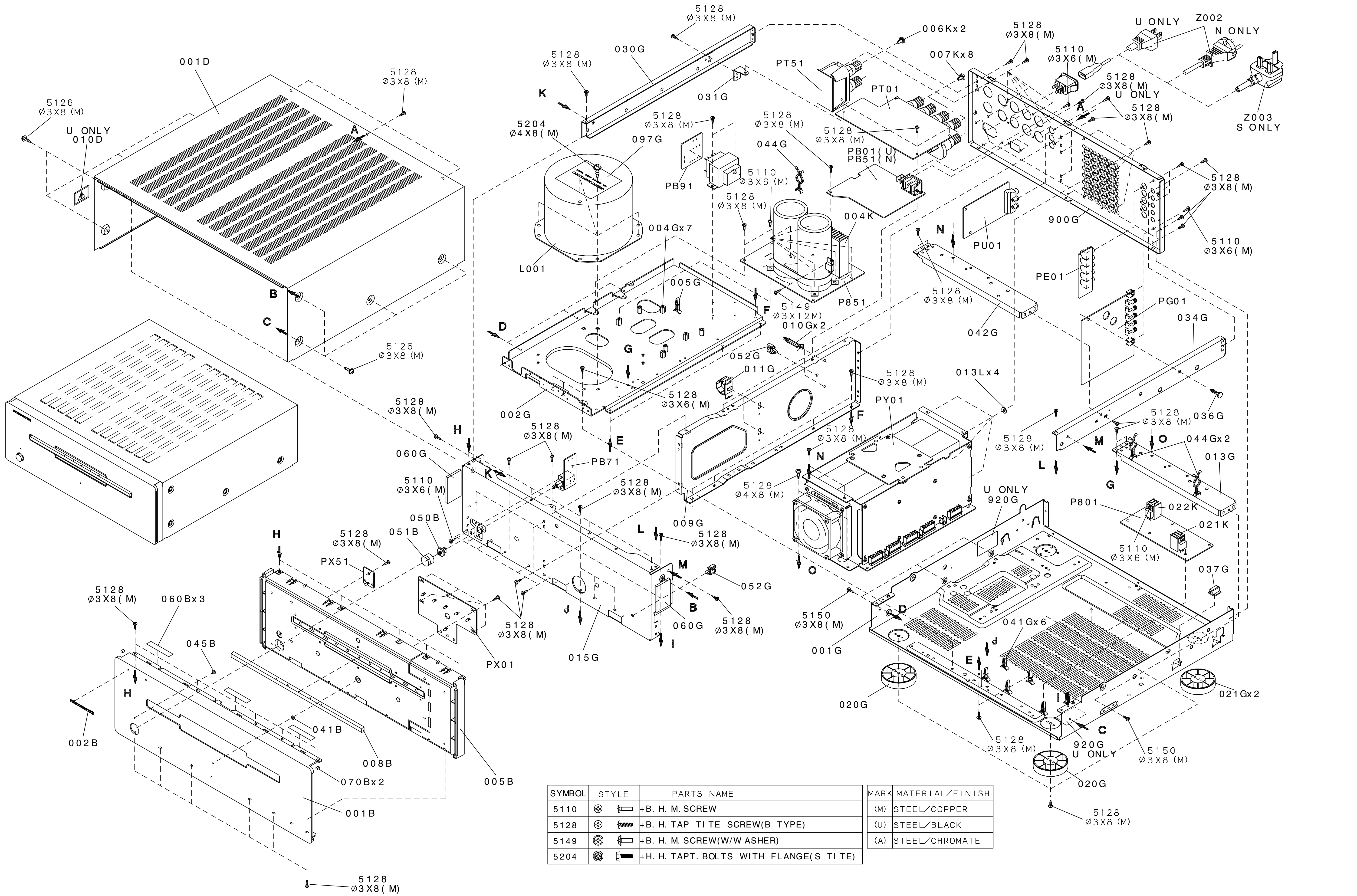
P794



Q725 Q715 Q727 Q726 Q716 Q728 QT25 QT15 QT27


P754
QN14
QN13
QN03
QN05 QN04 QN06
QN02 QN10 QN12 QN11
QN09 QN08 QN07
QP04 QP02
QP10 QP14
QP08
QP12 QP06
QP03 QP01
QP09 QP13
QP07
QP11 QP05
FR-CH
P754
WA300J1012
SL-CH
QP20 QP24
QP18 QP22
QP30
QP19 QP23
Q871
Q861
Q881
QP28
QP16
QP26
QP27
QP15

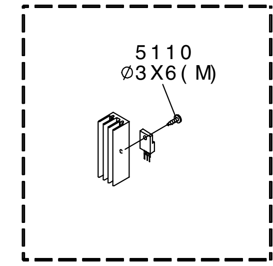
7. EXPLODED VIEW AND PARTS LIST

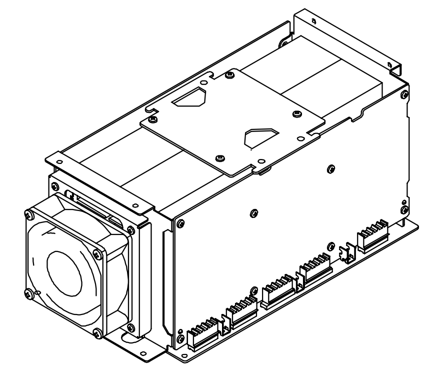


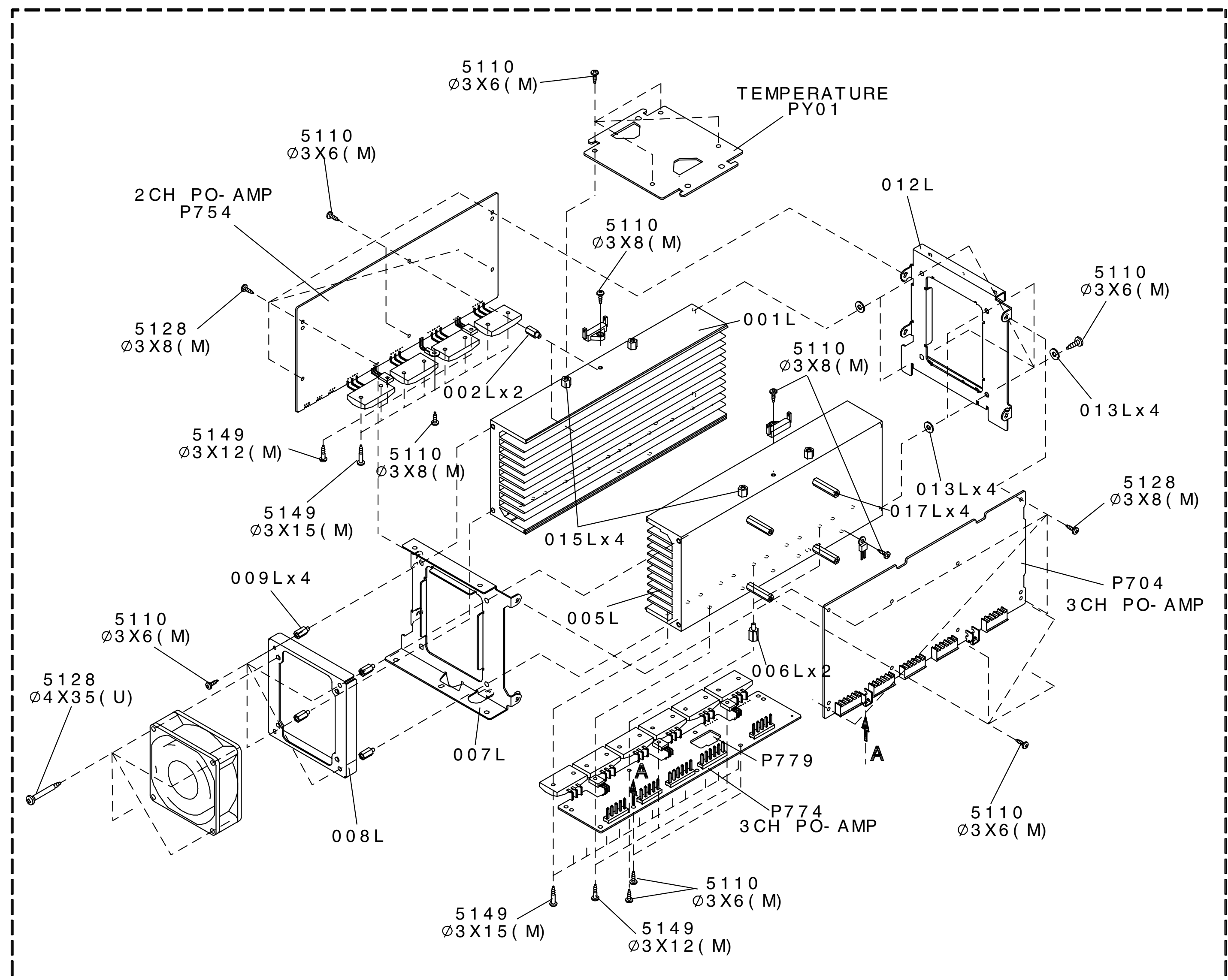
SYMBOL	STYLE	PARTS NAME
5110		+B. H. M. SCREW
5128		+B. H. TAP TITE SCREW(B TYPE)
5149		+B. H. M. SCREW(W/WASHER)
5204		+H. H. TAPT. BOLTS WITH FLANGE(S TITE)

MARK	MATERIAL/FINISH
(M)	STEEL/COPPER
(U)	STEEL/BLACK
(A)	STEEL/CHROMATE

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
001B	GOLD	9965 000 01970	FRONT PANEL GLD	310J248110
001B	BLACK	9965 000 01969	FRONT PANEL BLK	310J248010
002B		4822 454 11825	BADGE MARANTZ	185J251010
005B	GOLD	9965 000 01972	CHASSIS FRONT MOLD GLD	310J105110
005B	BLACK	9965 000 01971	CHASSIS FRONT MOLD BLK	310J105010
008B		9965 000 01973	WINDOW	310J158010
041B		9965 000 01974	LENS STAR MARK	310J355010
045B		9965 000 01393	LENS STANDBY	312J355010
050B		9965 000 01394	JOINT POWER	312J125010
051B	GOLD	9965 000 01395	BUTTON POWER SW GLD	255W270110
051B	BLACK	9965 000 01975	BUTTON POWER SW BLK	255W270010
020G		4822 462 42129	LEG FRONT	183J057010
021G		4822 462 42048	LEG REAR	183J057110
⚠ J001		9965 000 01313	JACK 2P AC INLET PWI1910-H	YJ04002440
⚠ L001	/K		MAINS TRANSF. TROIDAL 220V 50Hz	TS42003020
⚠ L001	/N,/S	9965 000 01961	MAINS TRANSF. TROIDAL 230V 50Hz	TS42003030
⚠ L001	/U		MAINS TRANSF. TROIDAL 120V 60Hz	TS42003010
			PACKING	
001T	/K,/S		USER GUIDE E/C	310J851350
001T	/N	9965 000 01976	USER GUIDE	310J851310
001T	/U		USER GUIDE E/F	310J851250
⚠ Z002	/K		MAINS CORD CCEE 2.5A 250V	ZC01803090
⚠ Z002	/N,/S	4822 321 11439	MAINS CORD 2P 10A 250V CLASS2	ZC01803080
⚠ Z002	/U		MAINS CORD 125V13A UL/CSA	ZC01802100
⚠ Z003	/S		MAINS CORD 250V10A FOR HONG KONG (S PORE)	ZC01804070
			NOT STANDARD SPARE PARTS	
001S	/U		PACKING CASE	310J801010
002S	/U		CUSHION RIGHT	310J809010
003S	/U		CUSHION LEFT	310J809020
008T	/K,/S		USER GUIDE FLY SHEET	310J851020
008T	/N		USER GUIDE FLY SHEET IEC 65	256J851010
010T			USER GUIDE FLY SHEET	310J851010







8. ELECTRICAL ADJUSTMENTS

1. DC offset adjustment

Master Volume : Minimum, Speaker out : non Load

Step	Power	Channel	Adjustment Point	Test Point	Adjustment Vaule
1	on	Front L	R715	Speaker Output Terminal	± 20mV
		Center	RT15		
		Front R	RP16		
		Surr. L	RP15		
		Surr. R	R716		

Note : If the measured value is not exceed ±20mV, no need to adjust the DC offset.

2. Iding current adjustment

Master Volume : Minimum, Speaker out : non Load

Step	Power	Channel	Adjustment Point	Test Point	Adjustment Vaule
1	Power on	Front L	R743	J713 or R773	within 1 minute 0.4mV
		Center	RT43	JT13 or RT73	
		Front R	RP44	JP04 or RP74	
		Surr. L	RP43	JP03 or RP73	
2	after 4 minutes	Surr. R	R744	J714 or R774	see table for adjustment vaule
				J***:4P Connecter (between 1p-4p) R***:Emitter Resister (0.1ohms x2)	

Time since power on	Idling current adjust.	Time since power on	Idling current adjust.
4-4 minutes 30 seconds	5.6mV	11-12 minutes	8.0mV
4m30s-5 minutes	6.4mV	12-14 minutes	7.6mV
5-5 minutes 30 seconds	7.2mV	14-16 minutes	7.2mV
5m30s-6 minutes	7.7mV	16-18 minutes	6.5mV
6-7 minutes	8.2mV	18-22 minutes	5.6mV
7-8 minutes	8.6mV	22-26 minutes	4.9mV
8-9 minutes	8.8mV	26-30 minutes	4.4mV
9-10 minutes	8.6mV	more than 30 minutes	4.0mV
10-11 minutes	8.4mV		The taget is 4.0mV

3. Thermostat circuit confirmation

1) When the product is POWER ON, remove the wire W701 from the connector J715 (P704).
2) Confirm the main rely is off.
3) Connect the wire W701 to the connector J715 (on P704).
4) Confirm the main relay is on.

4. Cooling fan confirmation

4.1 Fan failure sensor confirmation

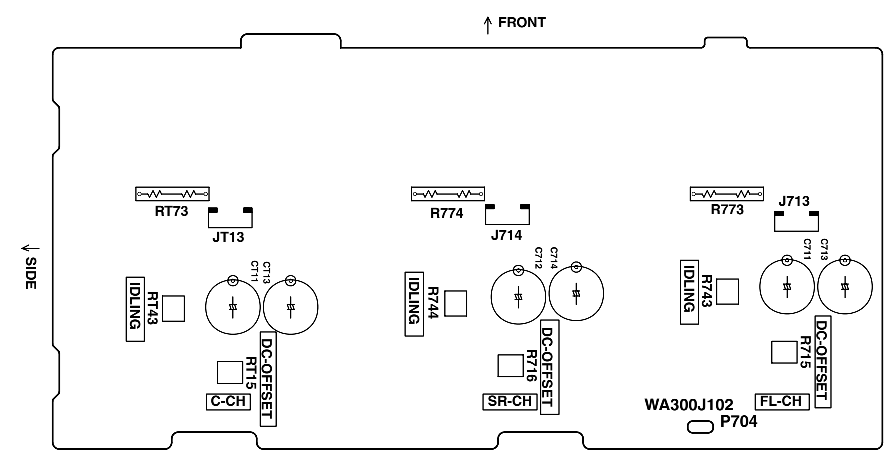
1) Set to be SPK output 1W from the front channel.
2) Connect the 1pin (LOCK) of the connecter JN10 (on P754) to chassis (GND level) by a wire.
3) After 6 seconds the SPK relay works, and the SPK output isn't output.

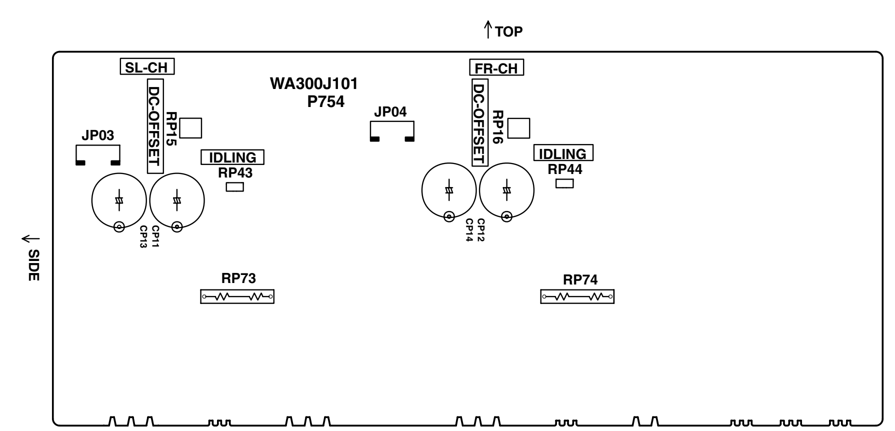
4.2 Temperature sensor confirmation

1) Connect a resistor (470ohms 1W) between JN10 3pin (T-2CH) and DC +12V.
2) Confirm the cooling fan starts working. (Status : JN09 between 1pin and 2pin = **+7.5V**, Fan speed = **Low**)
3) Remove the resistor.
4) Confirm the cooling fan stops.
5) Connect the resistor between JN10 4pin (T-3CH) and DC +12V.
6) Confirm the cooling fan starts working again.
7) Remove the resistor.
8) Confirm the cooling fan stops.
9) Connect the resistor between JN10 3pin (T-2CH) and DC +12V. And then connect another resistor between JN10 4pin (T-3CH) and DC +12V.
10) Confirm the cooling fan starts working.
11) And then connect the resistor between JN10 2pin (SPEED) and DC +12V.
12) Confirm the cooling fan changes to work with high speed. (Status : JN09 between 1pin and 2pin = **+11.5V**, Fan speed = **High**)

4.3 Fan catching a foreign body sensor confirmation

1) Connect the resistor (470ohms 1W) between JN10 3pin (T-3CH) and DC +12V.
2) Confirm the cooling fan starts working. (Status : JN09 between 1pin and 2pin=**+7.5V**, Fan speed = **Low**)
3) Set to be SPK output 1W from the front channel.
4) Hold the cooling fan by hand and stop it.
   Notes: Take care of wound in the hand!
5) After 6 seconds the SPK relay works and the SPK output isn't output.





9. TECHNICAL DESCRIPTION

The Peak Detector (explanation about Front L CH)

1) First stage of QG01 <NJM4558DD> (on PG01) functions for comparator.
2) The input signal voltage at JE01 <INPUT Front L> (on PE01) is sent to the 3 pin of QG01 by way of CG01 (on PG01) and RG01 (on PG01), part of Speaker Output voltage is sent to the 2 pin of QG01 by way of RN55 (on PT01), CG05 (on PG01) and RG06 (on PG01).
3) The 2 pin voltage is same to the 3 pin until about 1.5V input voltage at JE01. Therefor the 1 pin of QG01 output voltage is 0V.
4) When input voltage at JE01 is more than 1.5V, Speaker Output voltage reaches at clipping level and the 2 pin voltage is different from the 3 pin.
5) Then some voltage appears at the 1 pin of QG01.
6) Negative voltage is taken out by DG01 (on PG01) and DG02 (on PG01), then QG02 <2SA608SP/ETC> (on PG01) becomes ON and PEAK LED turns on.

Notice: The PEAK LED turns on little in usual operation, This turns on when input voltage at JE01 becomes 1.5V over and Speaker Output voltage is more than 36V.

10. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTORS

R✻✻✻: 1) GD05 ××× 140, Carbon film fixed resistor, ±5% 1/4W
R✻✻✻: 2) GD05 ××× 160, Carbon film fixed resistor, ±5% 1/6W
①——— Resistance value

Examples ;
①Resistance value

0.1 Ω 001	10 Ω 100	1 kΩ 102	100 kΩ 104
0.5 Ω 005	18 Ω 180	2.7 kΩ 272	680 kΩ 684
1 Ω 010	100 Ω 101	10 kΩ 103	1 MΩ 105
6.8 Ω 068	390 Ω 391	22 kΩ 223	4.7 MΩ 475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

C✻✻✻: CERAMIC CAP.
3) DD1 ×××× 370, Ceramic capacitor
Disc type
Temp.coeff.P350 ～N1000, 50V
② ③
③—— Capacity value
②—— Tolerance

Examples ;
② Tolerance (Capacity deviation)
±0.25 pF 0
±0.5 pF 1
±5% 5

✻ Tolerance of COMMON PARTS handled here are as follows :
0.5 pF～ 5 pF .... ±0.25 pF
6 pF～ 10 pF .... ±0.5 pF
12 pF～ 560 pF .... ±5%

③ Capacity value

0.5 pF 005	3 pF 030	100 pF 101
1 pF 010	10 pF 100	220 pF 221
1.5 pF 015	47 pF 470	560 pF 561

C✻✻✻ : CERAMIC CAP.
4) DK16 ××× 300, High dielectric constant ceramic capacitor
Disc type
Temp.chara. 2B4, 50V
④—— Capacity value

Examples ;
④ Capacity value

100 pF 101	1000 pF 102	10000 pF 103
470 pF 471	2200 pF 222	

C✻✻✻ : 5) ELECTROLY CAP. ( ), 6) FILM CAP. ( )
5) EA×××××× 10, Electrolytic capacitor
One-way lead type, Tolerance ±20%
⑤ ⑥
⑥—— Working voltage
⑤—— Capacity value

Examples ;
⑤ Capacity value

0.1 µF 104	4.7 µF 475	100 µF 107
0.33 µF 334	10 µF 106	330 µF 337
1 µF 105	22 µF 226	1100 µF 118
		2200 µF 228

⑥ Working voltage

6.3V 006	25V 025
10V 010	35V 035
16V 016	50V 050

6) DF15 ××× 350 ⟶ Plastic film capacitor
DF15 ××× 310 ⟶ One-way type, Mylar ±5% 50V
DF16 ××× 310 ⟶ Plastic film capacitor
One-way type, Mylar ±10% 50V
⑦—— Capacity value

Examples ;
⑦ Capacity value

0.001 µF (1000 pF) 102	0.1 µF 104
0.0018 µF 182	0.56 µF 564
0.01 µF 103	1 µF 105
0.015 µF 153	

NOTE : 1) The above CODES (R✻✻✻ , R✻✻✻ , C✻✻✻ , C✻✻✻ and C✻✻✻) are omitted on the schematic diagram in some case.
2) On the occasion, be confirmed the common parts on the parts list.
3) Refer to "Common Parts List" for the other common parts (**RI05**, **DD4**, **DK4**).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows;

1. KOA Corporation

Part No. (MJI)	Type No. (KOA)	Description
NH05 ××× 140 ⟶	RF25S ×××× ΩJ	(±5% 1/4W)
NH05 ××× 120 ⟶	RF50S ×××× ΩJ	(±5% 1/2W)
NH85 ××× 110 ⟶	RF73B2A ×××× ΩJ	(±5% 1/10W)
NH95 ××× 140 ⟶	RF73B2E ×××× ΩJ	(±5% 1/4W)

✻ Resistance value —— Resistance value (0.1 Ω – 10 kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No. (MJI)	Type No. (MEC)	Description
NF05 ××× 140, RF05 ××× 140 ⟶	ERD-2FCJ ×××	(±5% 1/4W)
NF02 ××× 140, RF02 ××× 140 ⟶	ERD-2FCG ×××	(±2% 1/4W)

✻Resistance value —— ✻Resistance value

Examples ;
✻Resistance value

0.1 Ω 001	10 Ω 100	1 kΩ 102	100 kΩ 104
0.5 Ω 005	18 Ω 180	2.7 kΩ 272	680 kΩ 684
1 Ω 010	100 Ω 101	10 kΩ 103	1 MΩ 105
6.8 Ω 068	390 Ω 391	22 kΩ 223	4.7 MΩ 475

ABBREVIATION AND MARKS

ANT.	: ANTENNA	BATT.	: BATTERY
CAP.	: CAPACITOR	CER.	: CERAMIC
CONN.	: CONNECTING	DIG.	: DIGITAL
HP	: HEADPHONE	MIC.	: MICROPHONE
µ-PRO	: MICROPROCESSOR	REC.	: RECORDING
RES.	: RESISTOR	SPK	: SPEAKER
SW	: SWITCH	TRANSF.	: TRANSFORMER
TRIM.	: TRIMMING	TRS.	: TRAMSISTOR
VAR.	: VARIABLE	X'TAL	: CRYSTAL

NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意：

⚠がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			P704-3CH AMP	
			CIRCUIT BOARD	
			P704-CAPACITORS	
CT01		4822 124 22275	ELECT. 47µF M 10V RA-2	OA47601020
CT03	/K,/N,/S		FILM 1200pF ±5% 100V APSV	OF15122540
CT03	/U		FILM 470pF ±5% 100V APSV	OF15471540
CT05			FILM 470pF ±5% 100V APSV	OF15471540
CT07		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
CT11			ELECT. 220µF M 100V RA-2	OA22710020
CT13			ELECT. 220µF M 100V RA-2	OA22710020
CT15		4822 124 11533	ELECT. 1µF 100V RA-2	OA10510020
CT17			MICA 10pF ±0.5pF AUDIO	DF31100520
CT19			ELECT. 4.7µF 100V	EA47510010
CT27		9965 000 00438	FILM 120pF ±5% 100V APSV	OF15121540
CT29		9965 000 00438	FILM 120pF ±5% 100V APSV	OF15121540
C701		4822 124 22275	ELECT. 47µF M 10V RA-2	OA47601020
C702		4822 124 22275	ELECT. 47µF M 10V RA-2	OA47601020
C703	/K,/N,/S		FILM 1200pF ±5% 100V APSV	OF15122540
C703	/U		FILM 470pF ±5% 100V APSV	OF15471540
C704	/K,/N,/S		FILM 1200pF ±5% 100V APSV	OF15122540
C704	/U		FILM 470pF ±5% 100V APSV	OF15471540
C705			FILM 470pF ±5% 100V APSV	OF15471540
C706			FILM 470pF ±5% 100V APSV	OF15471540
C707		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
C708		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
C711				
~			ELECT. 220µF M 100V RA-2	OA22710020
C714				
C715		4822 124 11533	ELECT. 1µF100V RA-2	OA10510020
C716		4822 124 11533	ELECT. 1µF100V RA-2	OA10510020
C717			MICA 10pF ±0.5pF AUDIO	DF31100520
C718			MICA 10pF ±0.5pF AUDIO	DF31100520
C719			ELECT. 4.7µF 100V	EA47510010
C720			ELECT. 4.7µF 100V	EA47510010
C727				
~		9965 000 00438	FILM 120pF ±5% 100V APSV	OF15121540
C730				
			P704-CAPACITORS (COMMON)	
C***			PLASTIC FILM CAPACITOR	
			±5% 50V : CT21 CT23 CT25	
			C721-C726	
			P704-RESISTORS	
RT07			1.5kΩ ±5% 1/6W	GG05152160
RT09			1.5kΩ ±5% 1/6W	GG05152160
RT15		4822 100 12159	TRIM. 100kΩ RH0638C15R	RA01040780
RT25			560Ω ±5% 1/6W	GG05561160
RT27			560Ω ±5% 1/6W	GG05561160
RT29			560Ω ±5% 1/6W	GG05561160
RT31			560Ω ±5% 1/6W	GG05561160
RT33			56Ω ±5% 1/6W	GG05560160
RT35			56Ω ±5% 1/6W	GG05560160
RT43		4822 100 20681	TRIM. 2.2kΩ RH0638CJ3R	RA02220780
⚠ RT49			10Ω ±5% 1/4W	GG05100140
⚠ RT51			10Ω ±5% 1/4W	GG05100140
RT53			100Ω ±5% 1/6W	GG05101160
RT55			100Ω ±5% 1/6W	GG05101160
RT57			JUMPER	75060501P0
RT59			JUMPER	75060501P0
RT61			1kΩ ±5% 1/6W	GG05102160
RT63			22Ω ±5% 1/6W	GG05220160
RT65			22Ω ±5% 1/6W	GG05220160
⚠ RT67		4822 116 60319	FUSIBLE 220Ω ±5% 1/2W	NH05221120
RT69			2.2Ω ±5% 1/6W	GG05022160
RT71			2.2Ω ±5% 1/6W	GG05022160
⚠ RT73		9965 000 01764	FIXED 0.10Ω K 5W X2	BZ10102020
RT75			1kΩ ±5% 1/6W	GG05102160
RT77			4.7kΩ ±5% 1/6W	GG05472160
RT83			220Ω ±5% 1/4W	GG05221140

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RT85			10Ω ±5% 1W	GA05100010
R707			1.5kΩ ±5% 1/6W	GG05152160
R708			1.5kΩ ±5% 1/6W	GG05152160
R709			1.5kΩ ±5% 1/6W	GG05152160
R710			1.5kΩ ±5% 1/6W	GG05152160
R715		4822 100 12159	TRIM. 100kΩ RH0638C15R	RA01040780
R716		4822 100 12159	TRIM. 100kΩ RH0638C15R	RA01040780
R725				
~			560Ω ±5% 1/6W	GG05561160
R732				
R733				
~			56Ω ±5% 1/6W	GG05560160
R736				
R743		4822 100 20681	TRIM. 2.2kΩ RH0638CJ3R	RA02220780
R744		4822 100 20681	TRIM. 2.2kΩ RH0638CJ3R	RA02220780
⚠ R749				
~			10Ω ±5% 1/4W	GG05100140
⚠ R752				
R753				
~			100Ω ±5% 1/6W	GG05101160
R756				
R757				
~			JUMPER	75060501P0
R760				
R761			1kΩ ±5% 1/6W	GG05102160
R762			1kΩ ±5% 1/6W	GG05102160
R763				
~			22Ω ±5% 1/6W	GG05220160
R766				
⚠ R767		4822 116 60319	FUSIBLE 220Ω ±5% 1/2W	NH05221120
⚠ R768		4822 116 60319	FUSIBLE 220Ω ±5% 1/2W	NH05221120
R769				
~			2.2Ω ±5% 1/6W	GG05022160
R772				
⚠ R773		9965 000 01764	FIXED 0.10Ω K 5W X2	BZ10102020
⚠ R774		9965 000 01764	FIXED 0.10Ω K 5W X2	BZ10102020
R775			1kΩ ±5% 1/6W	GG05102160
R776			1kΩ ±5% 1/6W	GG05102160
R777			4.7kΩ ±5% 1/6W	GG05472160
R778			4.7kΩ ±5% 1/6W	GG05472160
R783			220Ω ±5% 1/4W	GG05221140
R784			220Ω ±5% 1/4W	GG05221140
R785			10Ω ±5% 1W	GA05100010
R786			10Ω ±5% 1W	GA05100010
			P704-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES.	
			±5% 1/6W : R701-R706	
			R711-R714 R717-R724	
			R737-R742 R745-R748	
			R779-R782 R787-R790 RT01	
			RT03 RT05 RT11 RT13 RT17	
			RT19 RT21 RT23 RT37 RT39	
			RT41 RT45 RT47 RT79 RT81	
			RT87 RT89	
			P704-SEMICONDUCTORS	
DT01		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
			30V 0.1A	
DT03		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
			30V 0.1A	
DT05			JUMPER	75060501P0
DT07			JUMPER	75060501P0
DT09			JUMPER	75060501P0
DT11			JUMPER	75060501P0
DT13		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
DT15		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
DT17		4822 130 80132	ZENER DIODE 3.9V	HD30391000
DT19		4822 130 80132	ZENER DIODE 3.9V	HD30391000
DT21		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
D701				
~		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
D704			30V 0.1A	
D705				
~			JUMPER	75060501P0
D712				
D713				
~		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
D716				
D717				
~		4822 130 80132	ZENER DIODE 3.9V	HD30391000
D720				
D721		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
D722		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
K761				
~			TRS. KIT	HK136019C0
K763			2SA360 2SC3423 PAIR O OR Y	
K766				
~			TRS. KIT.	HK183719C0
K768			2SA1837 2SC4793(HFE) SELE.	
K771				
~			TRS. KIT 2SA1216 2SC2922	HK121619F0
K773			O OR Y PAIR	
QT01		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
QT03		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
QT05		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
QT07		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
QT09		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
QT11		5322 130 61728	TRS. 2SA1360 O OR Y	HT113602A0
QT13		5322 130 61737	TRS. 2SC3423 O OR Y	HT334232A0
⚠ QT17		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
⚠ QT19		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
⚠ QT21		4822 130 63635	TRS. 2SC4793 O Y	HT347932A0
⚠ QT23		4822 130 63634	TRS. 2SA1837 O Y	HT118372A0
QT29		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
Q701				
~		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
Q704				
Q705		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
Q706		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
Q707				
~		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
Q710				
Q711		5322 130 61728	TRS. 2SA1360 O OR Y	HT113602A0
Q712		5322 130 61728	TRS. 2SA1360 O OR Y	HT113602A0
Q713		5322 130 61737	TRS. 2SC3423 O OR Y	HT334232A0
Q714		5322 130 61737	TRS. 2SC3423 O OR Y	HT334232A0
⚠ Q717		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
⚠ Q718		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
⚠ Q719		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
⚠ Q720		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
⚠ Q721		4822 130 63635	TRS. 2SC4793 O Y	HT347932A0
⚠ Q722		4822 130 63635	TRS. 2SC4793 O Y	HT347932A0
⚠ Q723		4822 130 63634	TRS. 2SA1837 O Y	HT118372A0
⚠ Q724		4822 130 63634	TRS. 2SA1837 O Y	HT118372A0
Q729		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
Q730		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
			P704-MISCELLANEOUS	
LT01			AIR COIL SPK CHOCK	ML08010030
L701			AIR COIL SPK CHOCK	ML08010030
L702			AIR COIL SPK CHOCK	ML08010030
S701		9965 000 01967	CIRCUIT BREAKER TEMP-SW	FR30900010
			90DEG OHD3-90B	
S702		9965 000 01968	CIRCUIT BREAKER TEMP-SW	FR31000040
			90DEG OHD3-91B	

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			P754-2CH AMP	
			CIRCUIT BOARD	
			P754-CAPACITORS	
CN01			CER. 0.1µF +80%-20% 50V DC	DD38104010
CN02		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CN03		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CN04			CER. 0.1µF +80%-20% 50V DC	DD38104010
CN05		4822 124 90354	ELECT. 100µF M 16V RA-2	OA10701620
CN06		4822 124 90354	ELECT. 100µF M 16V RA-2	OA10701620
CN07		4822 124 41543	ELECT. 1µF M 50V RA-2	OA10505020
CN08			CER. 0.1µF +80%-20% 50V DC	DD38104010
CN09		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020
CN10		4822 124 90362	ELECT. 22µF M 50V RA-2	OA22605020
CN11		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CN12		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CN13		4822 124 90354	ELECT. 100µF M 16V RA-2	OA10701620
CN14		4822 124 90354	ELECT. 100µF M 16V RA-2	OA10701620
CN15			CER. 0.1µF +80%-20% 50V DC	DD38104010
CN16		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
CN17		4822 124 12389	ELECT. 47µF 16V	EQ47601630
CP01		4822 124 22275	ELECT. 47µF M 10V RA-2	OA47601020
CP02		4822 124 22275	ELECT. 47µF M 10V RA-2	OA47601020
CP03	/K,/N,/S		FILM 1200pF ±5% 100V APSV	OF15122540
CP03	/U		FILM 470pF ±5% 100V APSV	OF15471540
CP04	/K,/N,/S		FILM 1200pF ±5% 100V APSV	OF15122540
CP04	/U		FILM 470pF ±5% 100V APSV	OF15471540
CP05			FILM 470pF ±5% 100V APSV	OF15471540
CP06			FILM 470pF ±5% 100V APSV	OF15471540
CP07		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
CP08		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
CP11				
~			ELECT. 220µF M 100V RA-2	OA22710020
CP13			ELECT. 220µF M 100V RA-2	OA22710020
CP14				
CP15		4822 124 11533	ELECT. 1µF100V RA-2	OA10510020
CP16		4822 124 11533	ELECT. 1µF100V RA-2	OA10510020
CP17			MICA 10pF ±0.5pF AUDIO	DF31100520
CP18			MICA 10pF ±0.5pF AUDIO	DF31100520
CP19			ELECT. 4.7µF 100V	EA47510010
CP20			ELECT. 4.7µF 100V	EA47510010
CP27				
~		9965 000 00438	FILM 120pF ±5% 100V APSV	OF15121540
CP30				
			P754-CAPACITORS (COMMON)	
C***			PLASTIC FILM CAPACITOR	
			±5% 50V : CP21-CP26	
			P754-RESISTORS	
⚠ RN04			15kΩ ±5% 1/2W	GG05153120
RN08			33kΩ ±5% 1/4W	GG05333140
RN17			JUMPER	75060501P0
⚠ RN44			220Ω ±5% 1W	GA05221010
RP07				
~			1.5kΩ ±5% 1/6W	GG05152160
RP10				
RP15		9965 000 01766	TRIM. 100kΩ	RA01040760
RP16		9965 000 01766	TRIM. 100kΩ	RA01040760
RP25				
~			560Ω ±5% 1/6W	GG05561160
RP32				
RP33				
~			56Ω ±5% 1/6W	GG05560160
RP36				
RP43		9965 000 01566	TRIM. 2.2kΩ	RA02220760
RP44		9965 000 01566	TRIM. 2.2kΩ	RA02220760
⚠ RP49				
~			10Ω ±5% 1/4W	GG05100140
⚠ RP52				

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RP53				
∫			100Ω ±5% 1/6W	GG05101160
RP55			100Ω ±5% 1/6W	GG05101160
RP56				
RP57				
∫			JUMPER	75060501P0
RP60				
RP61			1kΩ ±5% 1/6W	GG05102160
RP62			1kΩ ±5% 1/6W	GG05102160
RP63				
∫			22Ω ±5% 1/6W	GG05220160
RP66				
⚠ RP67		4822 116 60319	FUSIBLE 220Ω ±5% 1/2W	NH05221120
⚠ RP68		4822 116 60319	FUSIBLE 220Ω ±5% 1/2W	NH05221120
RP69				
∫			2.2Ω ±5% 1/6W	GG05022160
RP72				
⚠ RP73		9965 000 01764	FIXED 0.10Ω K 5W X2	BZ10102020
⚠ RP74		9965 000 01764	FIXED 0.10Ω K 5W X2	BZ10102020
RP75			1kΩ ±5% 1/6W	GG05102160
RP76			1kΩ ±5% 1/6W	GG05102160
RP77			4.7kΩ ±5% 1/6W	GG05472160
RP78			4.7kΩ ±5% 1/6W	GG05472160
RP83			220Ω ±5% 1/4W	GG05221140
RP84			220Ω ±5% 1/4W	GG05221140
RP85			10Ω ±5% 1W	GA05100010
RP86			10Ω ±5% 1W	GA05100010
			P754-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES.	
			±5% 1/6W : RN01-RN03	
			RN05-RN07 RN09-RN14	
			RN18-RN38 RN40-RN43 RN49	
			RP01-RP06 RP11-RP14	
			RP17-RP24 RP37-RP42	
			RP45-RP48 RP79-RP82	
			RP89 RP90	
			P754-SEMICONDUCTORS	
DN01		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
			30V 0.1A	
DN02		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
			30V 0.1A	
DN04		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DN05				
∫		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
DN07			30V 0.1A	
DN09		4822 116 21235	VARISTOR PTH487A01BE222	HP00004230
DP01				
∫		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
DP04			30V 0.1A	
DP05				
∫			JUMPER	75060501P0
DP12				
DP13				
∫		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
DP16				
DP17				
∫		4822 130 80132	ZENER DIODE 3.9V	HD30391000
DP20				
DP21		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
DP22		4822 130 80837	DIODE HSS81TD 150V 150mA	HD20027010
K764			TRS. KIT	HK136019C0
			2SA360 2SC3423 PAIR O OR Y	
K765			TRS. KIT	HK136019C0
			2SA360 2SC3423 PAIR O OR Y	
K769			TRS. KIT	HK183719C0
			2SA1837 2SC4793(HFE) SELE.	

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
K770			TRS. KIT	HK183719C0
			2SA1837 2SC4793(HFE) SELE.	
K774			TRS. KIT 2SA1216 2SC2922	HK121619F0
			O OR Y PAIR	
K775			TRS. KIT 2SA1216 2SC2922	HK121619F0
			O OR Y PAIR	
QN01		4822 209 83312	IC TA7317P	HC10042050
QN02		4822 130 42594	DIG.TRS. DTC144ES UN4213	BA20002000
			47K 47K	
QN03		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
QN06		4822 130 60696	TRS. 2SC1627 O OR Y	HT316272B0
			80V 300mA 600MW TO	
⚠ QN07		9965 000 01771	IC PQ30RV11	HC36930320
QN08		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000
			2SC3199 ETC.	
QN09		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000
			2SC3199 ETC.	
QN10		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000
			2SC3199 ETC.	
QN11		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
QN12		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
QN13		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000
			2SC3199 ETC.	
QN14		4822 130 42715	TRS. 2SA1048 2SA933S	HT10001000
			2SA1267 ETC.	
QP01				
∫		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
QP04				
QP05		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
QP06		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
QP07				
∫		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
QP10				
QP11		5322 130 61728	TRS. 2SA1360 O OR Y	HT113602A0
QP12		5322 130 61728	TRS. 2SA1360 O OR Y	HT113602A0
QP13		5322 130 61737	TRS. 2SC3423 O OR Y	HT334232A0
QP14		5322 130 61737	TRS. 2SC3423 O OR Y	HT334232A0
⚠ QP15		4822 130 60117	TRS. 2SC3419 Y	HT334191Y0
			40V 0.8A PC=1.2W (5W)	
⚠ QP16		4822 130 60117	TRS. 2SC3419 Y	HT334191Y0
			40V 0.8A PC=1.2W (5W)	
⚠ QP17		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
⚠ QP18		4822 130 43283	TRS. 2SC2705 O OR Y	HT327052A0
⚠ QP19		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
⚠ QP20		4822 130 42999	TRS. 2SA1145 O OR Y	HT111452A0
⚠ QP21		4822 130 63635	TRS. 2SC4793 O Y	HT347932A0
⚠ QP22		4822 130 63635	TRS. 2SC4793 O Y	HT347932A0
⚠ QP23		4822 130 63634	TRS. 2SA1837 O Y	HT118372A0
⚠ QP24		4822 130 63634	TRS. 2SA1837 O Y	HT118372A0
⚠ QP25		9965 000 01762	TRS. 2SC2922 O Y	HT329222A0
⚠ QP26		9965 000 01762	TRS. 2SC2922 O Y	HT329222A0
⚠ QP27		9965 000 01763	TRS. 2SA1216 O Y	HT112162A0
⚠ QP28		9965 000 01763	TRS. 2SA1216 O Y	HT112162A0
QP29		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
QP30		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
			P754-MISCELLANEOUS	
LP01			AIR COIL SPK CHOCK	ML08010030
LP02			AIR COIL SPK CHOCK	ML08010030
⚠ MN51		9965 000 01770	D.C MOTOR	MM01200320
			DC FAN 12V FBA08A12H0	
ZN51			UNIT KIT DC FAN MOTOR	ZK300J0020

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			P774-POWER	
			CIRCUIT BOARD	
			P774-SEMICONDUCTORS	
D799		4822 116 21235	VARISTOR PTH487A01BE222	HP00004230
⚠ QT15		4822 130 60117	TRS. 2SC3419 Y	HT334191Y0
			40V 0.8A PC=1.2W (5W)	
⚠ QT25		9965 000 01762	TRS. 2SC2922 O Y	HT329222A0
⚠ QT27		9965 000 01763	TRS. 2SA1216 O Y	HT112162A0
⚠ Q715		4822 130 60117	TRS. 2SC3419 Y	HT334191Y0
			40V 0.8A PC=1.2W (5W)	
⚠ Q716		4822 130 60117	TRS. 2SC3419 Y	HT334191Y0
			40V 0.8A PC=1.2W (5W)	
⚠ Q725		9965 000 01762	TRS. 2SC2922 O Y	HT329222A0
⚠ Q726		9965 000 01762	TRS. 2SC2922 O Y	HT329222A0
⚠ Q727		9965 000 01763	TRS. 2SA1216 O Y	HT112162A0
⚠ Q728		9965 000 01763	TRS. 2SA1216 O Y	HT112162A0
			P801-SUB POWER SUPPLY	
			CIRCUIT BOARD	
			P801-CAPACITORS	
C801			CER. 0.01µF +80%-20% 50V	DK18103310
C802			CER. 0.01µF +80%-20% 50V	DK18103310
C803		4822 124 11583	ELECT. 2200µF 35V	OA22803510
C804		4822 124 11583	ELECT. 2200µF 35V	OA22803510
C805			CER. 0.01µF +80%-20% 50V	DK18103310
C806			CER. 0.01µF +80%-20% 50V	DK18103310
C807		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
C808		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
C809			CER. 0.01µF +80%-20% 50V	DK18103310
C810			CER. 0.01µF +80%-20% 50V	DK18103310
C811		9965 000 01965	ELECT. 1000µF 35V	OA10803510
C812			CER. 0.01µF +80%-20% 50V	DK18103310
C813		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
C814			CER. 0.01µF +80%-20% 50V	DK18103310
C821			CER. 0.01µF +80%-20% 50V	DK18103310
C822			CER. 0.01µF +80%-20% 50V	DK18103310
C823			ELECT. 470µF 35V	EA47703510
C824			CER. 0.01µF +80%-20% 50V	DK18103310
C825		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
C826			CER. 0.01µF +80%-20% 50V	DK18103310
C831			ELECT. 470µF 35V	EA47703510
C832			CER. 0.01µF +80%-20% 50V	DK18103310
C841			CER. 0.01µF DC50V +80%-20%	DD38103010
C871		4822 124 22722	ELECT. 1000µF 16V	OA10801620
C891		4822 124 90353	ELECT. 100µF 10V	OA10701020
			P801-RESISTORS	
⚠ R801		4822 111 90967	FUSE 4.7Ω 1/4W	NF05047140
⚠ R802		4822 111 90967	FUSE 4.7Ω 1/4W	NF05047140
R841			470Ω ±5% 1W	GA05471010
R842			470Ω ±5% 1W	GA05471010
R871			1kΩ ±5% 1/6W	GD05102160
R891			47kΩ ±5% 1/6W	GD05473160
R892			10kΩ ±5% 1/6W	GD05103160
			P801-SEMICONDUCTORS	
⚠ D801 ~ ⚠ D808		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
D809		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
D810		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
D811		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
⚠ D821 ~ ⚠ D824		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
D829		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
⚠ Q801		4822 209 83317	IC NJM7815FA +15V	HC38915090
⚠ Q802		4822 209 61256	IC NJM7915FA –15V	HC39915090

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
⚠ Q803		4822 209 70084	IC NJM7812FA +12V	HC38912090
⚠ Q804		4822 209 73096	IC NJM78M05FA +5V	HC38505090
Q871		4822 130 61417	TRS. 2SB1240 TV-2 PND Q.R	HT212402A0
Q891		4822 130 61227	DIG.TRS. DTA114ES UN4111	BA10001000
			10K.10K	
Q892		4822 130 60117	TRS. 2SC3419 Y	HT334191Y0
			40V 0.8A PC=1.2W	
			P801-MISCELLANEOUS	
⚠ F801	/K,/N,/S	4822 070 32001	FUSE T2A 250V BS LISTED	FS10200850
⚠ F801	/U		FUSE 2A 125V UL CSA MITI	FS10200360
⚠ F802	/K,/N,/S	4822 070 32001	FUSE T2A 250V BS LISTED	FS10200850
⚠ F802	/U1B		FUSE 2A 125V UL CSA MITI	FS10200360
P851			**P851-MAIN AMP POWER**	WA310J1050
			SUPPLY CIRCUIT BOARD	
			P851-CAPACITORS	
C851			CER. 0.01µF +80%-20% E	DK18103560
			500V	
C852			CER. 0.01µF +80%-20% E	DK18103560
			500V	
C853	/K,/N,/S		FILM. 0.68µF DC400V	DF76684510
⚠ C854		9965 000 01964	ELECT. 47000µF M 80V X2	EI47908010
C855		4822 124 40763	ELECT. 2.2µF M 50V RA-2	OA22505020
			P851-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES.	
			±5% 1/6W : R851-R854	
			P851-SEMICONDUCTORS	
⚠ D851		9965 000 01578	DIODE 600V 25A BRIDGE	HE20029290
D853		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
D854		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
			PB01-PRIMARY POWER	
			SUPPLY CIRCUIT BOARD	
			[U VERSION]	
⚠ CB01	/U		CER. 0.01µF ±20% DE7150 F	DK17103840
⚠ CB03	/U		CER. 0.01µF ±20% DE7150 F	DK17103840
			PB01-RESISTORS	
⚠ RB03	/U	9965 000 01761	ROTOR 2.2Ω 7W	NQ15022070
			W/TEMP.FUSE	
⚠ RB04	/U	9965 000 01761	ROTOR 2.2Ω 7W	NQ15022070
			W/TEMP.FUSE	
			PB01-SEMICONDUCTORS	
DB01	/U	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DB02	/U	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
			PB01-MISCELLANEOUS	
⚠ FB01	/U		FUSE 15A 250V UL CSA MITI	FS11500440
			NO.314	
⚠ FB02	/U		FUSE 250mA 250V	FS10025360
			UL CSA FBM	
⚠ JB12	/U		JACK AC OUTLET 1P	YJ04001780
			CCT1302-0202	
⚠ LB01	/U	4822 280 80773	RELAY VS24MB-NR TV-8	LY10240240
			SEMKO LISTED	
⚠ LB02	/U	4822 280 80773	RELAY VS24MB-NR TV-8	LY10240240
			SEMKO LISTED	
			PB51-PRIMARY POWER	
			SUPPLY CIRCUIT BOARD	
			[/K,/N,/S VERSION]	
⚠ CB52	/K,/N,/S		CER. 0.01µF ±20% DE7150 F	DK17103840
⚠ CB53	/K,/N,/S		CER. 0.01µF ±20% DE7150 F	DK17103840
			PB51-RESISTORS	
⚠ RB53	/K,/N,/S	9965 000 01761	ROTOR 2.2Ω 7W	NQ15022070

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			W/TEMP.FUSE	
⚠ RB54	/K,/N,/S	9965 000 01761	ROTOR 2.2Ω 7W	NQ15022070
			W/TEMP.FUSE	
			PB51-SEMICONDUCTORS	
DB51	/K,/N,/S	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DB52	/K,/N,/S	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
			PB51-MISCELLANEOUS	
⚠ FB51	/K,/N,/S	4822 070 34002	FUSE T4A 250V BS LISTED	FS10400850
⚠ FB52	/K,/N,/S	4822 070 34002	FUSE T4A 250V BS LISTED	FS10400850
⚠ FB53	/K,/N,/S	4822 070 11251	FUSE T125mA 250V	FS10012850
			BS LISTED	
⚠ LB51	/K,/N,/S	4822 280 80773	RELAY VS24MB-NR TV-8	LY10240240
			SEMKO LISTED	
⚠ LB52	/K,/N,/S	4822 280 80773	RELAY VS24MB-NR TV-8	LY10240240
			SEMKO LISTED	
			PB71-POWER SWITCH	
			CIRCUIT BOARD	
⚠ CB71			CER. 0.01µF ±20% DE7150 F	DK17103840
⚠ SB71		9965 000 01777	PUSH SW. POWER	SP01012460
			SDDLB1-B1-D2 TV-5 M3	
			PB91-SUB TRANSF	
			CIRCUIT BOARD	
⚠ L002	/K		MAINS TRANSF. 220V 50Hz	TS14155020
⚠ L002	/N,/S	9965 000 01962	MAINS TRANSF. 230V 50Hz	TS14155030
⚠ L002	/U		MAINS TRANSF. 120V 60Hz	TS14155010
			PE01-INPUT TERMINAL	
			CIRCUIT BOARD	
			PE01-CAPACITORS	
CE01			CER. 0.1µF +80%-20% 50V DC	DD38104010
CE02			CER. 0.1µF +80%-20% 50V DC	DD38104010
CE03			CER. 0.1µF +80%-20% 50V DC	DD38104010
CE04 ~ CE08			FILM 180pF ±5% 100V	OF15181540
			PE01-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES.	
			±5% 1/6W : RE01-RE10	
			PE01-MISCELLANEOUS	
JE01		9965 000 01315	TERMINAL 2P RCA JACK	YT02021550
			BLK/BLK GOLD 1L2	
JE02		4822 290 81638	TERMINAL RCA 1L1P BLK AU	YT02010790
			FLM-GND	
JE03		9965 000 01315	TERMINAL 2P RCA JACK	YT02021550
			BLK/BLK GOLD 1L2	
			PG01-INPUT VOL. PEAK	
			DETECTOR CIRCUIT BOARD	
			PG01-CAPACITORS	
CF01		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CF02			JUMPER	75060501P0
CF03			CER. 47pF ±5% 50V	DA15470110
CF11		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CF12			JUMPER	75060501P0
CF13			CER. 47pF ±5% 50V	DA15470110
CF21		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CF22			JUMPER	75060501P0
CF23			CER. 47pF ±5% 50V	DA15470110
CF26			CER. 0.01µF +80%-20% 50V	DK18103310
CF27		4822 124 90354	ELECT. 100µF M 16V RA-2	OA10701620
CF31		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CF32			JUMPER	75060501P0
CF33			CER. 47pF ±5% 50V	DA15470110

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CF36			CER. 0.01µF +80%-20% 50V	DK18103310
CF37		4822 124 90354	ELECT. 100µF M 16V RA-2	OA10701620
CF41		4822 124 41539	ELECT. 47µF M 16V RA-2	OA47601620
CF42			JUMPER	75060501P0
CF43			CER. 47pF ±5% 50V	DA15470110
CG03			CER. 22pF ±5% 50V	DD15220300
CG04			CER. 22pF ±5% 50V	DD15220300
CG06		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG07			CER. 0.01µF +80%-20% 50V	DK18103310
CG09			CER. 0.01µF +80%-20% 50V	DK18103310
CG23			CER. 22pF ±5% 50V	DD15220300
CG24			CER. 22pF ±5% 50V	DD15220300
CG26		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG43			CER. 22pF ±5% 50V	DD15220300
CG44			CER. 22pF ±5% 50V	DD15220300
CG46		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG63			CER. 22pF ±5% 50V	DD15220300
CG64			CER. 22pF ±5% 50V	DD15220300
CG66		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG67			CER. 0.01µF +80%-20% 50V	DK18103310
CG68		4822 124 41539	ELECT. 47µF 16V RA-2	OA47601620
CG69			CER. 0.01µF +80%-20% 50V	DK18103310
CG70		4822 124 41539	ELECT. 47µF 16V RA-2	OA47601620
CG83			CER. 22pF ±5% 50V	DD15220300
CG84			CER. 22pF ±5% 50V	DD15220300
CG86		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG87			CER. 0.01µF +80%-20% 50V	DK18103310
CG89			CER. 0.01µF +80%-20% 50V	DK18103310
			PG01-CAPACITORS (COMMON)	
C***			PLASTIC FILM CAPACITOR	
			±5% 50V : CG01 CG05 CG21	
			CG25 CG41 CG45 CG61 CG65	
			CG81 CG85	
			PG01-RESISTORS	
RF03		9965 000 01966	VAR. 50K(B) RK09K111	RK05030940
RF13		9965 000 01966	VAR. 50K(B) RK09K111	RK05030940
RF23		9965 000 01966	VAR. 50K(B) RK09K111	RK05030940
RF33		9965 000 01966	VAR. 50K(B) RK09K111	RK05030940
RF43		9965 000 01966	VAR. 50K(B) RK09K111	RK05030940
			PG01-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES.	
			±5% 1/6W : RF01 RF04 RF06	
			RF11 RF14 RF16 RF21 RF24	
			RF26 RF31 RF34 RF36 RF41	
			RF44 RF46 RG01-RG11	
			RG21-RG31 RG41-RG51	
			RG61 RG71 RG81-RG91	
			PG01-SEMICONDUCTORS	
DG01 ~ DG10		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000
			30V 0.1A	
QF01 ~ QG01		4822 209 83631	IC NJM4558D-D	HC10008090
QG02		4822 130 42715	TRS. 2SA1048 2SA933S	HT10001000
			2SA1267 ETC.	
QG03		4822 209 83631	IC NJM4558D-D	HC10008090
QG04		4822 130 42715	TRS. 2SA1048 2SA933S	HT10001000
			2SA1267 ETC.	
QG05		4822 209 83631	IC NJM4558D-D	HC10008090
QG06		4822 130 42715	TRS. 2SA1048 2SA933S	HT10001000
			2SA1267 ETC.	
QG07		4822 209 83631	IC NJM4558D-D	HC10008090
QG08		4822 130 42715	TRS. 2SA1048 2SA933S	HT10001000
			2SA1267 ETC.	

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
QG09		4822 209 83631	IC NJM4558D-D	HC10008090
QG10		4822 130 42715	TRS. 2SA1048 2SA933S	HT10001000
			2SA1267 ETC.	
			PG01-MISCELLANEOU	
Z001	/K1G		JACK AC ADAPTER	YJ04001240
			S-I6116 (PLRTY)	
			PT01-FRONT SURROUND SPK	
			TERM. CIRCUIT BOARD	
			PT01-CAPACITORS	
CN51				
∫	/N./S		CER. 0.01µF +80%-20% 50V	DK18103310
CN58				
CN65				
∫			CER. 39pF ±5% CH 50V BLK	DD15390300
CN69				
			PT01-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES.	
			±5% 1/6W : RN51 RN53 RN55	
			RN57 RN59	
			PT01-SEMICONDUCTORS	
DN51		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DN52		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DN53		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
			PT01-MISCELLANEOUS	
JN54	/K,/N./S	9965 000 01774	TERMINAL SPK. T6478 RR/BB	YT01040830
			IEC	
JN54	/U1B		TERMINAL SPK. RR/BB 94V2	YT01040860
JN55	/K,/N./S	9965 000 01775	TERMINAL SPK. T6478 BB/RR	YT01040840
			IEC	
JN55	/U1B		TERMINAL SPK. BB/RR 94V2	YT01040850
LN51		4822 280 10305	RELAY VB-18MBU-565-UL3	LY20180020
LN52		4822 280 10305	RELAY VB-18MBU-565-UL3	LY20180020
LN53		4822 280 10305	RELAY VB-18MBU-565-UL3	LY20180020
007K	/K,/N./S		BUSHING SPK TERMINAL CAP	227J259010
007K	/U		BUSHING SPK TERMINAL CAP	227J259020
			PT51-CENTER SPEAKER	
			TERMINAL CIRCUIT BOARD	
CN71	/N./S		CER. 0.01µF +80%-20% 50V	DK18103310
JN71	/K,/N./S	9965 000 01776	TERMINAL T6976 2P SPK. B-R	YT01020390
JN71	/U		TERMINAL SPK. T6543-C	YT01020410
006K	/K,/N./S		BUSHING SPK TERMINAL CAP	227J259010
006K	/U1		BUSHING SPK TERMINAL CAP	227J259020
			PU01-RC-5 CONTROL	
			CIRCUIT BOARD	
			PU01-CAPACITORS	
CU01			CER. 0.1µF +80%-20% 50V DC	DD38104010
CU02			CER. 1000pF K 50V	DK16102300
CU03			CER. 0.1µF +80%-20% 50V DC	DD38104010
CU04			CER. 0.1µF +80%-20% 50V DC	DD38104010
CU05		4822 124 41543	ELECT. 1µF M 50V RA-2	OA10505020
CU06		4822 124 41543	ELECT. 1µF M 50V RA-2	OA10505020
CU07			CER. 0.1µF +80%-20% 50V DC	DD38104010
CU08			CER. 0.01µF DC50V +80%-20%	DD38103010
CU09		4822 124 90352	ELECT. 10µF M 16V RA-2	OA10601620
CU10			CER. 0.1µF +80%-20% 50V DC	DD38104010
CU11			CER. 0.01µF DC50V +80%-20%	DD38103010
CU12			CER. 0.01µF +80%-20% 50V	DK18103310
CU13		4822 124 90354	ELECT. 100µF M 16V RA-2	OA10701620
CU14		4822 121 42327	FILM. 470pF ±5% M 50V	DF15471350

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CU15		4822 121 42327	FILM. 470pF ±5% M 50V	DF15471350
CU16			CER. 0.01µF DC50V +80%-20%	DD38103010
CU17			CER. 0.01µF DC50V +80%-20%	DD38103010
CU18			CER. 0.01µF +80%-20% 50V	DK18103310
			PU01-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES.	
			±5% 1/6W : RU01-RU27	
			PU01-SEMICONDUCTORS	
QU01				
∫		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000
QU04			2SC3199 ETC.	
QU05		4822 209 14883	IC S-806C 4.55V V-SENSOR	HC10075530
QU06		4822 209 15768	MICROPROCESSOR	HU400ST000
			TMP47C201P	
QU07		4822 130 60117	TRS. 2SC3419 Y	HT334191Y0
			40V 0.8APC=1.2W(5W)	
QU08		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000
			2SC3199 ETC	
			PU01-MISCELLANEOU	
JU01			TERMINAL 1P RCA YELLOW	YT02010560
JU02			TERMINAL RCA 1L2P ORG	YT02021640
XU01		4822 242 72592	SERAMIC VIB.	FQ05564010
			CST 5.56MGW-TF01	
			PX01-STANDBY INDICATE	
			CIRCUIT BOARD	
DX01		9965 000 01963	L.E.D. EB3803X-J210K BLUE	HI10119300
DX02				
∫		4822 130 11569	L.E.D. HLMF-K200 #2UL RED	HI10005340
DX06				
RX01			100kΩ ±5% 1/6W	GD05104160
			PX51-POWER PEAK INDICATE	
			CIRCUIT BOARD	
DX51		4822 130 11569	L.E.D. HLMF-K200 #2UL RED	HI10005340